

# An Effective Job Recruitment System Using Content-based Filtering

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**Abstract** -In Today's world of Internet job seeker always spends hours to find useful job. To reduce this laborious work we design and implement recommendation system for online job hunting. The main aim of this portal is to connect to the industries and acts as an online recruitment, to support the students to find a right job after graduation. What we propose in this paper is user model(Content Based Filtering)and social interaction(Collaborative Filtering) to improve the quality of job recommendation.

**Key Words:** Job Recommender System, Item-based collaborative filtering, Content-based Filtering, Knowledge Sharing, Online Recruitment, User Cluster

## 1. INTRODUCTION

Now a day's people search job opportunity or candidates mainly online using LinkedIn, Firstnaukri.com, Guru, Career Builder, Class door, Cool-Works, Monster etc. The key problem is that most of the job hunting websites just display recruiting information to job applicants. Job Seeker have to retrieve among all the information to find jobs they want to apply. The whole procedure is tedious and inefficient.

Unemployment is one of the serious social issue faced by both developing and developed countries. Today the Internet has become one of the key method for getting information relating to job vacancies.

The employers upload the job offerings into the job portals. Online recruitment has become the standard method for employers and job seekers to meet their respective objectives.

So this project will focus on reducing limitations of existing job portals & provide better and efficient job recommendation.

## 1.1 PAPER SURVEY

### A. Development of Job Portal to Improve Education Quality

This system enhances the understanding concept and importance of the job Portal for Students in the Universities .Online recruitment has become the standard Method for Employers and Jobseekers. Jobseekers use online Methods which are very convenient and save a lot of time.

The Below Mentioned Methods are Traditional ways of Recruitment:

- Employment Recruitment Agencies.
- Job Fairs
- Advertising in the Mass Media such as Newspapers.
- Advertisement in television and radio
- Management Consultants.
- Existing Employee Contacts.
- Schools colleges or Universities students Service Departments.
- Most of the time people get notification or other details regarding job through reference of their closer ones, relatives, etc.

### Advantages:

- Students can identify a large number of eligible job seekers and get their information easily.
- Internet Provides students to attract a higher number of candidates, those

who fulfill the job requirement.

- It is very fast and saves time.

## **B.A Job Re-Commander System Based on User Clustering**

Job Recommender System contains four different aspects:

- 1) User Profiling
- 2) Recommendation Strategies
- 3) Recommendation Output
- 4) User Feedback

Different job applicant has different characteristics so to develop well suited JRS which will suitable to all job applicants. Solution for this is iHR system. It is based on Clustering approach. It groups the users into no of clusters which have same characteristics and then provide job approaches to each group.

## **C.A Research of Job Recommendation System Based on Collaborative Filtering**

The increasing usage of Internet has heightened the need for online job hunting. The key problem is that most of job hunting websites just display recruitment information to website viewers students have to retrieve among all the information to find jobs they want to apply.

Recommendation algorithms:

1. Content-based Filtering (CBF)
2. Collaborative Filtering (CF)
  - I)User Based CF
  - II)Item-Based CF

### **1. Content-Based Filtering:**

In content-based methods features of items are abstract & compared with a profile of user preference It is widely applied in information retrieval.

### **2. Collaborative Filtering:**

CF is a Popular Recommendations algorithm that bases its predictions & recommendations on the rating

or behavior of other users in the system.

### **I) User Based CF:**

Find other users whose past rating behavior is similar to that of the current user & Use their ratings on other items to predict what the current user will like.

### **II)Item-Based CF:**

Rather than using similarities between users rating behavior to predict preferences, item based CF uses similarities between the rating patterns

## **D. Hybrid Job RE-commendation System (Hyred)**

HYRED is part of a broader web platform that has the purpose of bringing together entities which can execute tasks.

### **1. RDB (Relational Database)**

The RDB component consists of an SQL server relational database that contains all the data from the platform.

### **2. Interface**

The interface represents web portal that is available for users to interact. as users interact with it, the information in the RDB is updated, triggering recommendation calculations on the Recommendation engine component.

### **3. Triple Store**

A TS stores data in a graph like structure, where entities are directly connected to each other and their characteristics.

### **4. Recommendation Engine**

To generate adequate team following points are considered.

1. Number of Team Members
2. Team Cohesion
3. Social Cohesion
4. Physical Location of Team Members

## 1.2 ARCHITECTURE OVERVIEW

The Proposed System is a Web Based Applications which allows applicants and Employers to register their details. Applicants can browse through the vacancy details that are posted and can apply for the job online. Employees can browse through the posted resume and select suitable candidates.

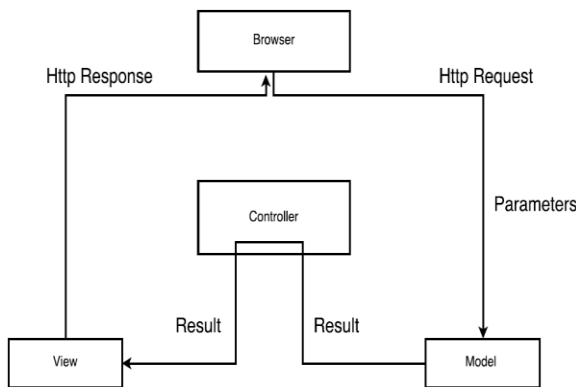


Figure 1.MVC Architecture

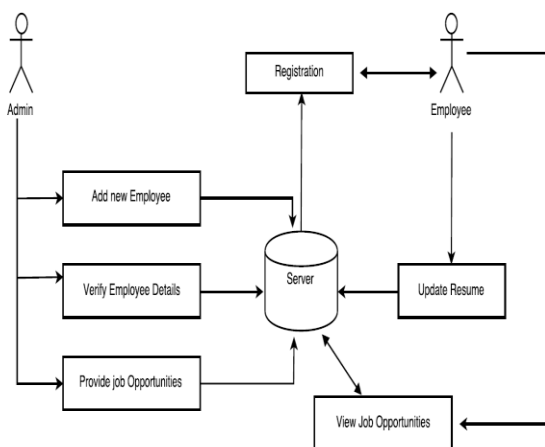


Figure 2.System Architecture

- Filter, search facility for job seeker according to their required vacancy.
  - Daily Updates via Notifications and other communication media.
  - Sending Resume saves efforts, time and cost of job seeker.
  - Job seeker can set privacy level for different companies.

- Job seeker can save the job according to their needs.
- Most recent jobs are displayed on homepage.
- Counting the number of times the resume of job seeker is access by the company.

Title of Paper Studied	Description	Drawbacks
Development of a Job web portal to improve education quality	Development of knowledge sharing system that acts as a job portal to improve the education environment	All the problems of jobless graduates can never fulfill by job web portal
Job Portal-A Web application for geographically distributed multiple clients	Provide solution for how to select appropriate job offer graduation which job skills are needed	Graphics Environment , Content insufficient, Technical issues
A Research of Job Recommendation system based on Collaborative filtering	In this Job Recommendation system two algorithmic strategies are used as follows 1.user based and 2.item based collaborative filtering	To optimize the recommendation system and improve the sparsity of user profile.
A Job Recommender System based on User clustering	Develop an online JRS that group the users into clusters and then provide different recommendation approaches to different user clusters	Context factor is not provided.
FODRA	For the challenge of matching people and Jobs new content	Time response and reliability is less

	based recommendation approach was proposed	
Hybrid Job Recommendation System(Hyred)	Provides Content based filtering and team Recommendation	Scalability, User Acceptance, Analysis on the validation

### 3. CONCLUSIONS

A job portal provides an efficient search for online information on job vacancies for jobseekers. The main goal of this project is to attempt to select the right graduates based on industry needs. However, it is important that be aware the job web portals can never fulfill all the problems of jobless graduates. it is focused on improving online job portal and try to reduce problems that existed in existing job systems by developing better portal.

Project focused on improving the online job portals and tried to reduce problems that are encountered in existing systems by developing a knowledge system that also acts as and job portal. Thus this portal can be more beneficial with further to the services and the features.

The Advantages of the new job portal are as follows:

1. Achieve the main targets of the project
2. Standard content services and display
- 3.High level management and flexibility

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