Advance Recruitment System

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Abstract— Our research goal is to develop an advance web portal system which is efficient in the evolution of recruitment system. This system is effectual for the Recruiter for Recruiting the job aspirants which are worthy for the respective job and the job aspirants can also apply for job position posted on the portal as well as the job aspirant can Search for the specific Job Position as their preferences. Thus, only the specific mail on the basis of their preferences should be sent, no other job position mail should be sent. This system maintains a trustworthy relation with the job aspirants and the recruiter by verifying the company is actually exist or not. It's also check whether the job aspirants have all the skills mention in his resume. A survey conducted for measuring the problem faced by the students on existing Job Portal System and after that the idea for the Advance Recruitment System is enacted.

Keywords— Ranking Algorithm, Recruitment System, Scalable Keyword Search Technique, Information Retrieval.

I. INTRODUCTION

Today's generation has facing a worst condition as unemployment. The traditional job Portal System provides lack knowledge and information about the job vacancies which may be a loss to the job opportunities. When jobs are available, but sometimes Job Portal System faces some Technical problems due to which job aspirants could not able to acquire the job opportunity. The Advance Recruitment System is the utmost effective system and has an imperative role on the online recruitment web Portal. This system provides complete data extracted from the company website using the tool and provide efficient services to the job seekers such that no loss of job seeker enacted.

In Traditional Job Portal systems the job aspirant has to Contact the recruiter's and has to retrieve a collection of job positions on his/her preferences and the system had to provide a list of job aspirants to a recruiter as per the job necessities, but to make the Job Recruitment System more Efficient and to less the stress of aspirants besides Recruiters, many methods and technology i.e. Ranking Algorithm, Key scale preference, efficient mail box integration are applied in the Advanced recruitment System. In Online Recruitment System we developed an Open Source Fetch (OSF) tool into a web portal that gather data from the aspirant's profiles of social media and also extract aspirant's project data and contribution activities from the OSS's projects (e.g. large code hosting service "GitHub"), This Tool helps for rating the aspirants based on their Contributions on open Source Software. Because of rating Aspirants on the basis of their Contribution Activities, recruiting the efficient and high-quality aspirants should be Convenient for the Recruiter. Scalable Keyword Search Technique is used for aspirant to benefit preference based mail delivery. [1].

II. RELATED WORK

Social Network Service (SNS) is a service where people interact with each other and it is most efficient medium to make Connection with each other. As the user of SNS are increasing the world is developing digitally and all the work are developing on Internet using data mining, as well as algorithms. Job Portal System used to reject the clearly absolute candidates who do not even have basic skillsets required for the job. However, when it comes to ranking candidates who possess those skills or experience, Information retrieval Technique is used and contribution activities data retrieves from their OSS Project. [2][7].

III. METHODOLOGY

A specific Ranking Algorithm is also used to generate a ranked list of employments/applicants on the basis of Social media profiles (e.g. LinkedIn) and their contribution on Open Source Software Projects. [3].

Pseudocode for Ranking Candidate

```
double maxvalues[5];
double minvalues[5];
// init arrays with any item
for(i=0; i<5; i++)
```

```
maxvalues[i] = items[0][i];
minvalues[i] = items[0][i];

// find minimum and maximum values
foreach (items as item)
for(i=0; i<5; i++)
if (minvalues[i] > item[i])
minvalues[i] = item[i];
if (maxvalues[i] < item[i])
maxvalues[i] = item[i];

// now scale them - in this case, to the
range of 0 to 1.
double scaledItems[sizeof(items)][5];
double t;
foreach(i=0; i<5; i++)
double delta = maxvalues[i] - minvalues[i];
foreach(j=sizeof(items)-1; j>=0; --j)
scaledItems[j][i]    =    (items[j][i]    -
minvalues[i]) / delta;
// linear normalization
```

Data Classification of data set evaluated with Decision Tree and Naïve Bayes, they had been the most important and efficient classification algorithm.
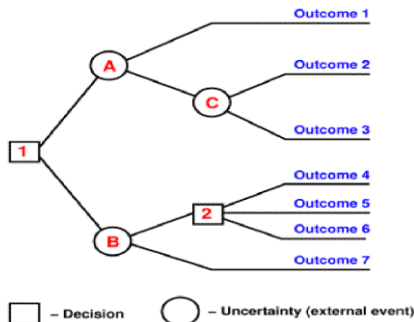

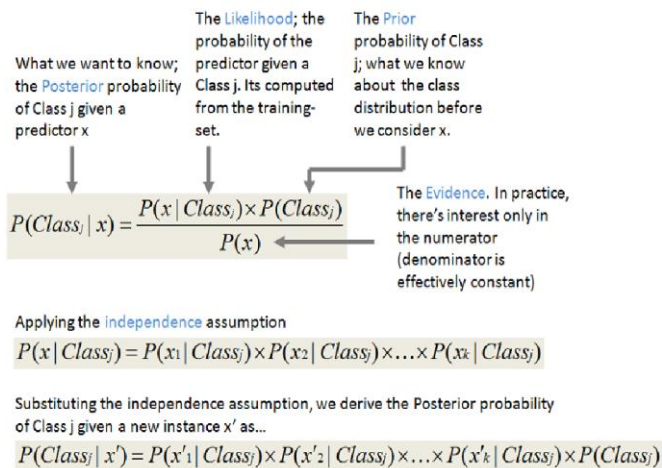Fig 1: Representation of Naïve Bayes Algorithm.

$$P(Class_j \mid x) = \frac{P(x \mid Class_j) \times P(Class_j)}{P(x)}$$

Applying the independence assumption

$$P(x \mid Class_j) = P(x_1 \mid Class_j) \times P(x_2 \mid Class_j) \times \ldots \times P(x_k \mid Class_j)$$

Substituting the independence assumption, we derive the Posterior probability of Class j given a new instance x' as...

$$P(Class_j \mid x') = P(x'_1 \mid Class_j) \times P(x'_2 \mid Class_j) \times \ldots \times P(x'_k \mid Class_j) \times P(Class_j)$$

Fig 2: Representation of Decision Tree.

IV. PROPOSED SYSTEM

Online Recruitment System with Open Source Fetch using Web Portal is a web based Software to support software development teams to employee developers as per their skills. This new Online Recruitment System was developed with an Open Source Fetch tool using a web portal that gather data from the aspirant's profiles of social media and also extract aspirant's project data and contribution activities from the OSS's projects, this data is used for rating the aspirants by using Ranking Algorithm (Information Retrieval) to generate a ranked list of employments/applicants. [4].

Scalable Keyword Search Technique is used for aspirant to benefit preference based mail delivery. The aspirant can apply for job position advertise on the portal as well as the aspirant can Search for the specific Job Position as per their preference and only the specific mail on the basis of their preferences should be delivered, no other job position mail should be delivered. [5].

Mail box system is introduced for Company recruiter as well as job aspirants for the no miscommunication issue. Verification of Company as well as job seeker is enacted such that the system should be reliable and this verification Process proceed in Admin Module.

V. SYSTEM INTRODUCTION

This portal is an advanced Recruitment system for the recruiters and Job Seekers. The Idea behind developing this Portal System was to make reliable and convenient Recruitment system. The job seekers need an effective portal which attracts the recruiter on job seekers profile and the portal system should be accessed on their individual platform for daily updates. The new portal assists as a web-based tool which accommodates to the needs of: students and users who are already employed as general users; unemployed as the jobseekers in the system, and organizations as the recruiters. The Admin is considered as a different category of user that performs management of portal. Controls, and views the entire process in the system.

The Company Recruiter Review the Application sent by the Job seeker and after that the Interview Details Sent by the Recruiter using the Inbuilt Mailbox.

The Candidate Module has a Dashboard from where he can know the progress of the application sent to the recruiter and can also apply for the job from this module.
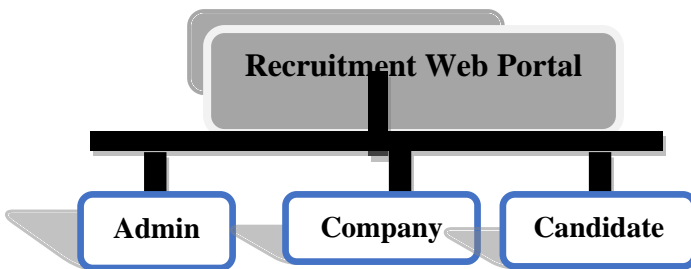
Fig 3: The framework representation of ARS**.**

The Main Features of the Advance Recruitment System:

- Rating Candidate Profiles.
- Efficient searching.
- Scalable Key Skill.
- Reliable Review.
- Open Source Resume Tool for Extract Data.
- Mail Integration.

VI.   SYSTEM IMPLEMENTATION AND DEVELOPMENT

In the Implementation of Online Job Portal System, three major stages Consist:

1. Creating data source from OSS raw data.
2. Designing an interactive tool that also visualizes necessary data.
3. Integrating mail System.

1. Creating data source from GitHub raw data.

For creating convincing developers profile through OSS activities, numerous data such as developer's personal data, their public GitHub repositories, their used programming languages for making assistances is necessary.

The relevant raw dataset of such data, which is characterized in JSON format, can be acquired from GitHub, for enhanced effectiveness, several worker threads are generated for directing different API requirements and recovering the consistent dataset concurrently. [6][9].

2. Designing an interactive tool that also visualizes necessary data.

The Visual Studio 2017 and Android Studio are used for developing the interactive tool that visualizes necessary data. The System Consist of two Platforms: Web-Portal and Android Application.
  1. Candidate Module.
  2. Company Module.
  3. Admin Module.

3. Integrating mail System.

Mail System Integration for the System for Verification of Mail Login Account and Mail Box System for Communication between the admin, candidate and company recruiter. [8].
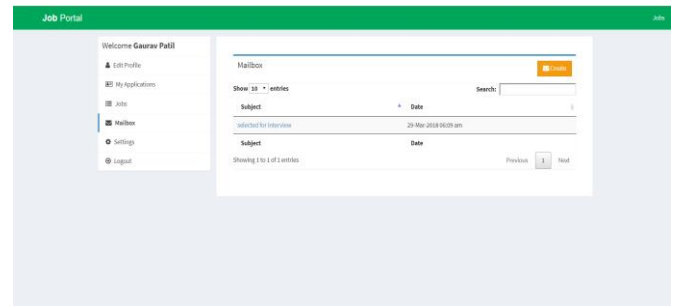

Fig 4: Overview of Mail Box in Recruitment System.

VII.   RESULTS & DISCUSSION

This System achieves a Better Environment for the recruiters as well as for the Job Aspirants. This Portal Improves the Quality of Job Portal System and make it the most reliable and convenient system.

A.   Study Area and Dataset

The Ranking Algorithm is applied on the Advanced Job Recruitment System. This **algorithm** allocates a higher **rank** values to the more significant Candidate rather than dividing the **rank** value of a Candidate evenly among its outgoing linked Open Source software contributions activities.
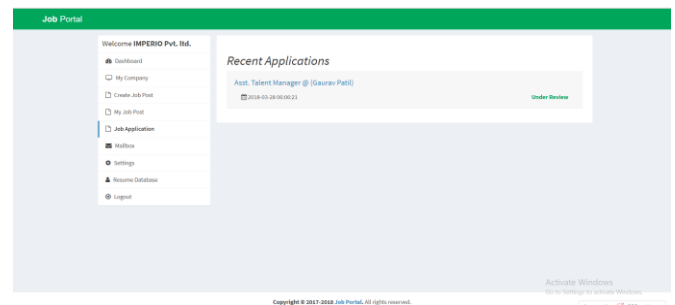

Fig 5: Overview of Ranking Algorithm Application.

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The fig: 5, has a user view of use of Ranking algorithm used for Rating the Candidate on the basis of the Performance and Open Source Software Related Contribution activities.

B. Output Dataset

The use of HTML and CSS for Designing the Web Portal Efficient and look reliable. User Interface has a major Impact of Making the System different from other Traditional Recruitment System.
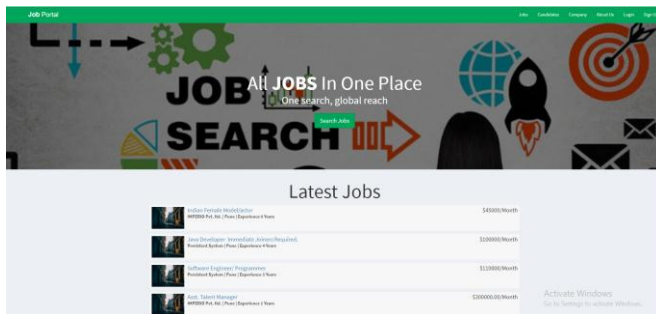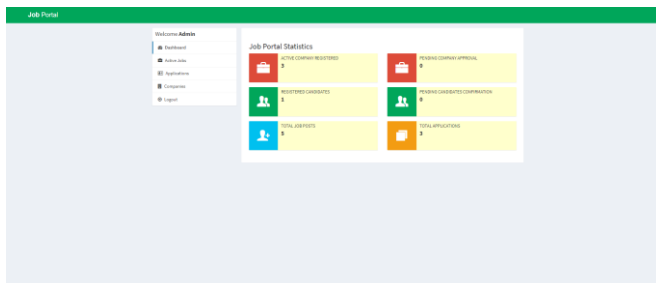

Fig 6: Homepage of Advance Recruitment System.

Fig 7: Overview **of** Admin Module.
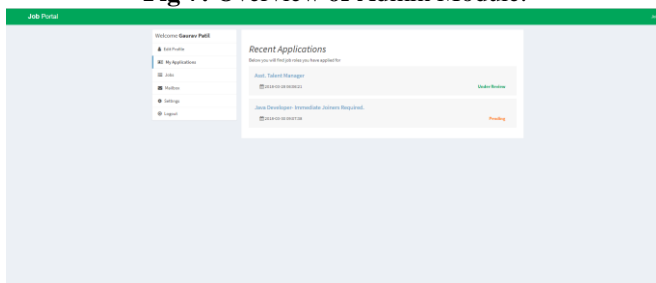

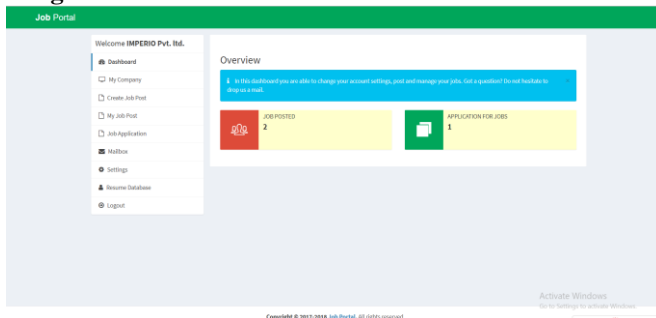**Fig 8:** Overview of the Dashboard for Candidate Module.

Fig 9: Overview of the Dashboard for Company Module.

VIII.   CONCLUSION

The various issues to develop a system for responding some problems that Job aspirants and Recruiters are facing nowadays. There are Several Job Portal System that having dissimilar applications or services to solve various difficulties. The main objective of this Online Job Portal System is to develop a web portal, to support software development teams to employee developers as per their skills and OSS project based on Contribution activities. The advantages of the new portal are as follows:

1. Automatic Resume Generation using Information retrieval.

2. Rating Job Aspirants Profile.

3. Scalable Key Skill and Mail Delivery System.

4. Integrated Mail Box for Communication.

This work had focused on improving the online job portals and tried to reduce some problems.

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