Personality Predication using AI/HR assessment tool using AI

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Abstract: *This will enable a more effective way to short list submitted candidate CVs from a large number of applicants providing a consistent and fair CV ranking policy, which can be legally justified. System will rank the experience and key skills required for particular job position. Than system will rank the CV's based on the resume details, student hobbies, strength, weakness or system conduct 15 to 16 questions for personality prediction purpose, experience and other key skills which are required for particular job profile. This system will help the HR department to easily shortlist the candidate based on the CV ranking policy. This system will focus not only in qualification and experience but also focuses on other important aspects which are required for particular job position. This system will help the human resource department to select right candidate for particular job profile which in turn provide expert workforce for the organization. Candidate here will register him/herself with all its details. Candidate can also fill an online form in that Resume details, hobbies, strengths, weakness, or our side 15 to 16 analysis on questions. After completing this entire things system shortlist top candidates and Auto mail send to candidates it also presents the work done result of the employee to the Manager who evaluates the top employees based on work efficiency and easily shortlist company's employee of the year.*

Keywords*: Personality Prediction, AI, NLP*

1. Introduction:

Human Resource Management is apparently supported by and provided with more opportunities by the development of Job Characteristics Model (JCM) which in turn is based on the concept of modern job design. Fortunately, the development in modern information system, digital technologies, the universal access of electronic technology and internet led to the inclination of the global Human Resource Management development and make the system more applicable. Following the trend, the proposed system tries to design a plan to integrate Job Characteristics Model into HR system to search for a new model of efficient operation on Human Resource Management in the Internet Age. Today there is a growing interest in the personality traits of a candidate by the organization to better examine and understand the candidate's response to similar circumstances. And in this system HR adds some criteria like personality required, roles and responsibilities etc.

and system is examined automatically to candidates are fit to all this criteria or not for this, the system conducts a personality prediction test to determine the personality traits of the candidate.

2. Problem statement:

There is a huge workload on the human resource department to select the right candidate for a particular job profile which in turn would provide experts workforce for the organization from a large pool of candidates like

1. Failure to attract talented candidates.
2. Lack of understanding between the recruiters and hiring manager
3. Lack of communication with candidates Retaining Millennial in the workforce for a longer period of time.
4. Inability in using data effectively.
5. Difficulty in balancing the speed of hire With quality of hire.
6. Lack of efficiency during the recruitment Process.

2.1 Scope:

The proposed system will enable a more effective way to short list submitted candidate from a large number of applicants providing a consistent and fair CV ranking policy. This can be legally justified. System will rank the experience and key skills required for a particular job position than system will rank the candidates form based on the experience and other key skills which are required for particular job profile. This system will help the HR department to easily shortlist the candidate based on the fill information in given form format or personality prediction test ranking policy. We present a set of techniques that makes the whole recruitment process more effective and efficient also. Our proposed system will ranks the top employee based on work feedback policy as well as suggestions.

2.2 Objectives:

- To develop a system to provide a more effective way of short-listing the candidates.
- To determine the key skill characteristic by defining each expert's preferences and ranking decisions.
- To automate the process of requirement specifications and applicant's ranking.

- To conduct aptitude and personality test to produce ranking decisions that would have relatively higher consistency than those of human experts.
- This system can be used in many organizations in order to shortlist expert candidate.
- At employee position also determine work done efficiency of the employee.

3. Present Theories and Practice used/Literature Survey:

In 2014 an Integrated E-Recruitment System for Automated Personality Mining and Applicant Ranking was proposed by [1]Faliagka et al. an automated candidate ranking was implemented by this system. It was based on objective criteria that the candidate's details would be extracted from the candidate's LinkedIn profile. The candidates' personality traits were automatically extracted from their social presence using linguistic analysis.

The candidate's rank was derived from individual selection criteria using Analytical Hierarchy Process (AHP), while their weight was controlled by the recruiter (admin). The limitations of the system were that senior positions that required expertise and certain qualifications were screened inconsistently Liden et al. published The General Factor of Personality: The interrelations among the Big Five personality factors (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) were analyzed in this paper to test for the existence of a GFP. The meta-analysis provides evidence for a GFP at the highest hierarchal level and that the GFP had a substantive component as it is related to supervisor-rated job performance were concluded by this paper.

However, it is also realized that it is important to note that the existence of a GFP did not mean that other personality factors that were lower in the hierarchy lost their relevance.

3.1 Comparison between Proposed system & Existing System:

a) Existing System:

In 2014 an Integrated System for Automated Personality Mining and Applicant Ranking was proposed by Faliagka etal.an automated candidate ranking was implemented by this system. It was based on objective criteria that the candidate's details would be extracted from the candidate's Linked In profile.

The candidates' personality traits were automatically extracted from their social presence using linguistic analysis. The candidate's rank was derived

from individual selection criteria using Analytical Hierarchy Process (AHP), while their weight was controlled by the recruiter (admin). The limitations of the system were that senior positions that required expertise and certain qualifications were screened inconsistently.

b) Proposed system:

This will enable a more effective way to short list submitted candidate CVs from a large number of applicants providing a consistent and fair CV ranking policy, which can be legally justified. System will rank the experience and key skills required for particular job position. Than system will rank the CV's based on the resume details, student hobbies, strength, weakness or system conduct 15 to 16 questions for personality prediction purpose, experience and other key skills which are required for particular job profile. This system will help the HR department to easily shortlist the candidate based on the CV ranking policy.

This system will focus not only in qualification and experience but also focuses on other important aspects which are required for particular job position. This system will help the human resource department to select right candidate for particular job profile which in turn provide expert workforce for the organization. Candidate here will register him/herself with all its details. Candidate can also fill an online form in that Resume details, hobbies, strengths, weakness, or our side 15 to 16 analysis on questions After completing this entire things system shortlist top candidates and Auto mail send to candidates it also presents the work done result of the employee to the Manager who evaluates the top employees based on work efficiency and easily shortlist company's employee of the year.

4. Proposed System Overview: with block diagram:

The proposed system will enable a more effective way to short list submitted candidate from a large number of applicants providing a consistent and fair CV ranking policy. This can be legally justified. System will rank the experience and key skills required for a particular job position than system will rank the candidates form based on the experience and other key skills which are required for particular job profile.

This system will help the HR department to easily shortlist the candidate based on the fill information in given form format or personality prediction test ranking policy. We present a set of techniques that makes the whole recruitment process more effective and efficient also. Our proposed system will ranks the top employee based on work feedback policy as well as suggestions.
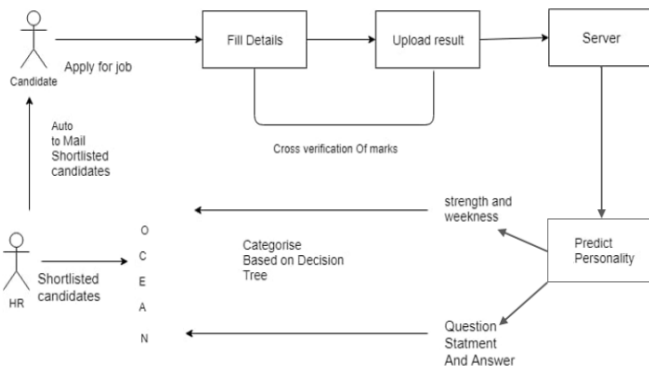
4.1 System Architecture

Figure 4.1 System Architecture

4.2 Implementation Details:

Human Resource Management is apparently supported by and provided with more opportunities by the development of Job Characteristics Model (JCM) which in turn is based on the concept of modern job design.

Fortunately, the development in modern information system, digital technologies, the universal access of electronic technology and internet led to the inclination of the global Human Resource Management development and make the system more applicable. Following the trend, the proposed system tries to design a plan to integrate Job Characteristics Model into HR system to search for a new model of efficient operation on Human Resource Management in the Internet Age.

Today there is a growing interest in the personality traits of a candidate by the organization to better examine and understand the candidate's response to similar circumstances. And in this system HR add some criteria like personality required, roles and responsibilities etc. and system are examine automatically to candidates are feet to all this criteria or not   for this, the system conducts a personality prediction test to determine the personality traits of the candidate.

Finally, it presents the results of the candidates to the recruiter who evaluates the top candidates and shortlists the candidate. In this project, we will register him/her with all resume details, hobbies, strengths, weakness and 15 to 16 questions for personality prediction in that HR analyzed the Candidates Openness(O),Conscientiousness(C),Extraversion(E) Agreeableness (A) means is one of the five personality traits of the Big Five personality theory.

They generally have an optimistic view of human nature and get along well with others. Neuroticism (N) Means is one of the Big Five higher-order personality traits in the study of psychology. Individuals who score high on neuroticism are more likely than average to be moody and to experience such feelings as anxiety, worry, fear, anger, frustration, envy, jealousy, guilt, depressed mood, and loneliness, which will be further, used by the system to shortlist their CV or candidates. After completing the think top 10 or above shortlisted candidates has auto mail are send.

We present a set of techniques that makes the whole recruitment process more effective and efficient also. We have implemented a system that ranks the top employee based on work feedback policy as well as suggestions

This system will focus not only in qualification and in experience but also focuses on other important aspects, which are required for particular job position. This system will help the human resource department to select right candidate for particular job profile, which turn provide expert workforce for the organization.

For all this process we use Artificial Intelligence (AI)It refers to technology used to do a task that requires some level of intelligence to accomplish . AI technologies offer significant opportunities to improve HR functions to Finding the right information, with lower costs, in less time and in a secure manner helps to build momentum step by step, beginning with the recruitment process.

5. System Requirements:

5.1 Hardware:
- System: Windows 7 and Upgrade version/Linux
- RAM: - 4 GB
- Hard Disk: - 500 GB
- CPU Speed: - 2 GHz

5.2 Software:
- Operating System: Windows / Linux
- Programming Language: - Java
- IDE: - Eclipse

5.4 Development Tools

Table 11 Development Tools

Developer Tools	Description
JDK 1.8	For JAVA Platform
XAMP/WAMP	For My Sql database
Eclipse	For Java code editing
Apache Tomcat 9	For database servlets

5.5 Application areas :

● 　　　Artificial Intelligent (AI)
● 　　　Neuro-Linguistic Programming(NLP)

6.　ADVANTAGES & DISADVANTAGES:

i) Advantages :

● 　　　This system can be used in many business sectors that may require expert candidate.

● 　　　This system will reduce workload of the human resource department.

● 　　　This system will help the human resource department to select right candidate for particular job profile which in turn provide expert workforce for the organization.

● 　　　Admin or the concern person can easily shortlist

ii) Disadvantages:

● 　　　This system requires large memory space as it stores data related to CV's or online form.

● 　　　Requires an active internet connection.

● 　　　May provide inaccurate results if data not entered properly

7.　External Result:

Figure 7.1 front page

7.1 HR Assessment Tool Admin Panel.
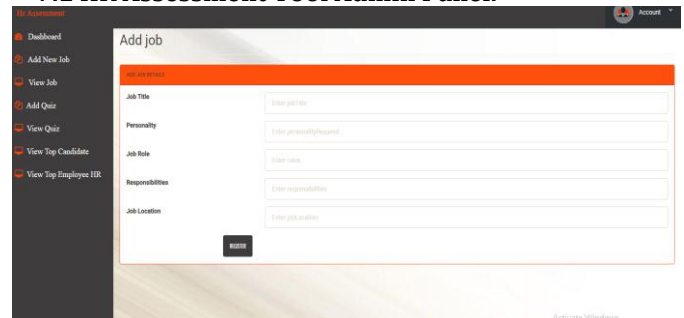
Figure 7.1 Admin Panel.

7.2 Admin can add job.
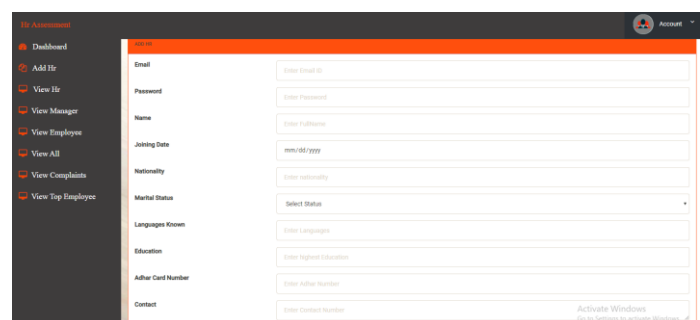
Figure 7.2 Add job

7.3 Admin can add HR.
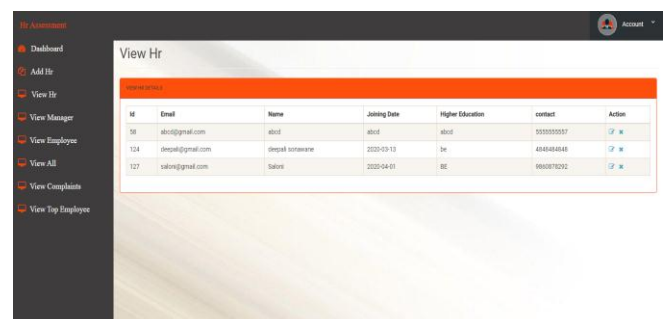
Figure 7.3 Add HR

7.4 Admin can View Empoyee
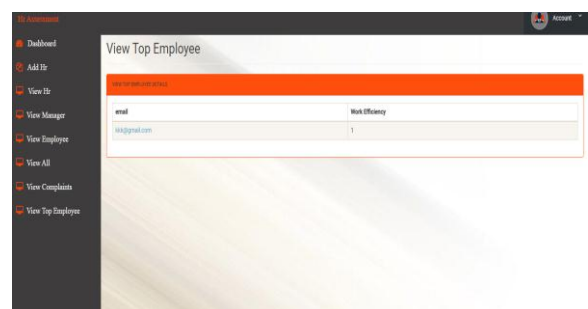
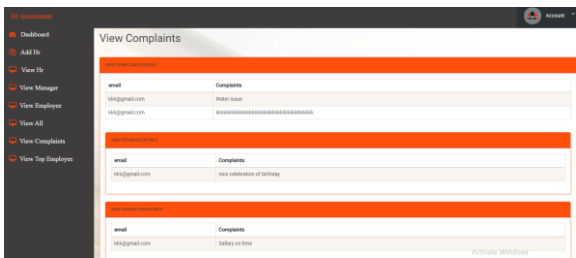**Figure 7.4** Admin can View Emp.

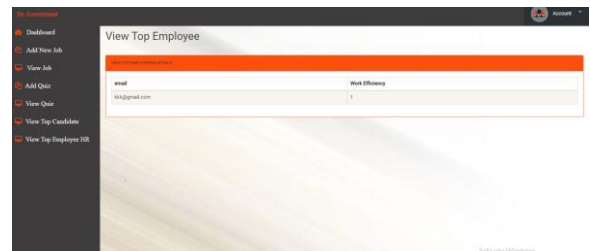### 7.5 Admin can view top employee.

Figure 7.5 view top employee.

7.6 Admin can view complents.
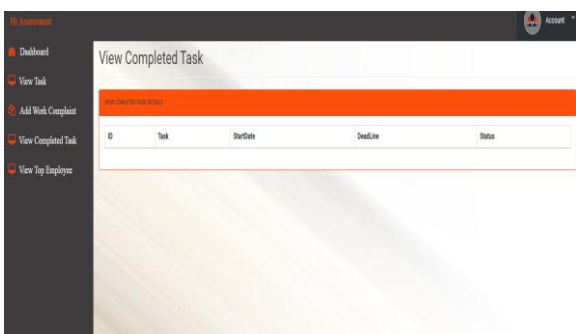
Figure 7.6 view complents.

13.7 HR can View Complaints.

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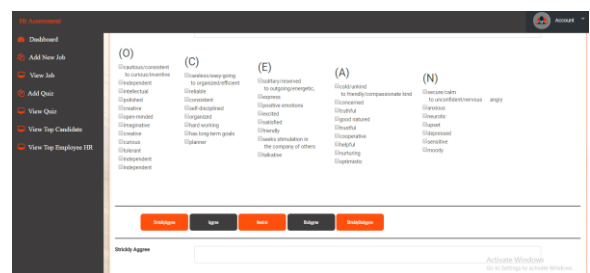
7.8 HR can View Top Employee.
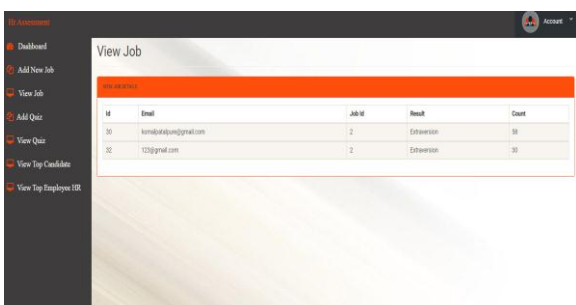
Figure 7.8 HR can View Top Employee.

7.9 HR can View Job.

Figure 7.9 HR can View Job

7.10 HR can View Top Employee.

Figure 7.10 HR can View Top Employee.

7.11 HR can Add Work Complaints.

Figure 7.11 HR can Add Work Complaints.

13.12 The Quiz Questions are Based on OCEAN Model.

Figure 7.12 The Quiz Questions are Based on OCEAN Model.

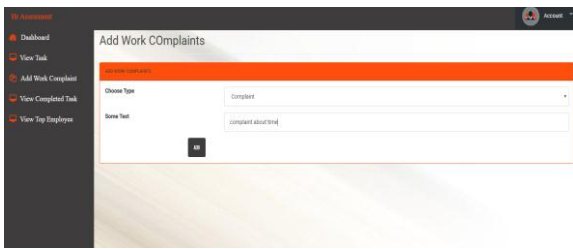### 7.13 Students can View the Quiz Questions.

Figure 7.13 Students can View the Quiz Questions.

7.14 Employee can Add Work Complents.

Figure 7.14 Employee can Add Work Complents

7.15 Employee can Add Work Complents.

Figure 7.15 Employee can Add Work Complents

7.16 Student Can View Job Details / Requirements.

Figure 7.16 Student Can View Job Details / Requirements.

7.17 Students can give Quiz Competition.

Figure 7.17 Students can give Quiz Competition
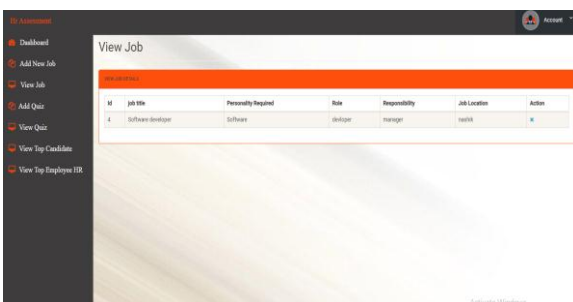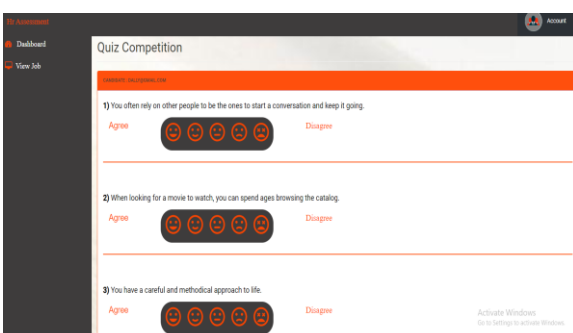
7.18 Students can Fill Registration Form.

CONCLUSION:

Our proposed system aims at helping the organization to ease the recruitment process by assisting the human resource department in short listing the right candidate for a specific job profile and also shortlist the employee of the year using AI.

The system can be used in many business sectors that will require expert candidate, thus reducing the work load of the human resource department

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