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Resume Analyzer An automated solution to recruitment process

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***Abstract*— The Resume Analyzer system analyses the resume and extracts the required details like name, contact details, experience, qualification etc. from the resume. Currently, the resumes are examined manually which takes a lot of time and efforts. In this paper we propose a solution where resume details will be extracted and analyzed by the system without human interaction. This will be achieved with the help of text mining technology. Text mining as a part of data mining is used to extract the text from the unstructured document and convert it into data for further analysis.**

***Index Terms*— Resume Analyzer, text mining, keywords**

I. INTRODUCTION

Resume Analyzer system is implementation, and evaluation of an approach to apply text mining for analysing the resumes company receives using keyword matching algorithm.

With the help of Keyword matching algorithm, the keywords from the customized dictionary will be mapped against the words in the resume. Once the keywords are matched the required data is extracted and stored in the database. The entire database is sorted based on various parameters like experience, qualification, age, etc. Interview scheduling is performed next by the system based on the generated sorted list. Applicants are informed about the interview through an automated mail generated by system.

As large numbers of people apply for the job, analysing each resume is difficult work. Also scheduling the interviews as per the sorting is a tedious job. We are attempting to reduce efforts on candidate's as well as company's side.

The companies can adopt the system as a part of their recruitment process. The project has a wider scope as applicant does will prefer the system were they only need to upload their resumes.

II. PROBLEM DEFINITION

Nowadays while applying for any job vacancy applicant needs to fill the company's application form and also upload resume on company's website. The application form, in general, is very lengthy and time consuming to design as well. The applicant needs fill all the details in the form which is very tedious and time consuming process. The information related to applicant is redundant as data from resume is same as that extracted from the form. The space is wasted in saving redundant data which is not required.

Problems with the existing system are:

A. Redundant data
B. More space required
C. Time consuming to design
D. Time consuming for the applicant as well
E. Manual analysis of resumes and scheduling of interviews.

III. EXISTING SOLUTION

There are prominently two ways to improve the readability of the resume:

A. Company specific format of resume
B. Information retrieval through application form

A. Company specific format of resume:

A specific format of resume is provided to applicants by a particular company. Stringent rules are enforced by companies to simplify their information retrieval process.

This method is helpful for companies as extraction and selection process complexity reduces. But it becomes time and energy consuming for the applicants.

B. Information retrieval through application form:

A lengthy application form is mandatory before registering for the recruitment process.

All the data available in resume is recurred in application form. Data redundancy is main issue with this solution.

IV. PROPOSED SOLUTION

In the proposed system, we are just taking resumes as the input from the applicants and all the details about the applicant is extracted from the resume. This simplifies the work of the applicant and saves his/her time and effort.

The system also automatically schedules the interviews for the applicants reducing the burden on Human Resource (HR) department. The prioritized list ensures that most deserving applicants are attended first.

The sorting criteria and interview time and place is under Administrator authority. Thus, scheduling process is performed with administrator mediation.

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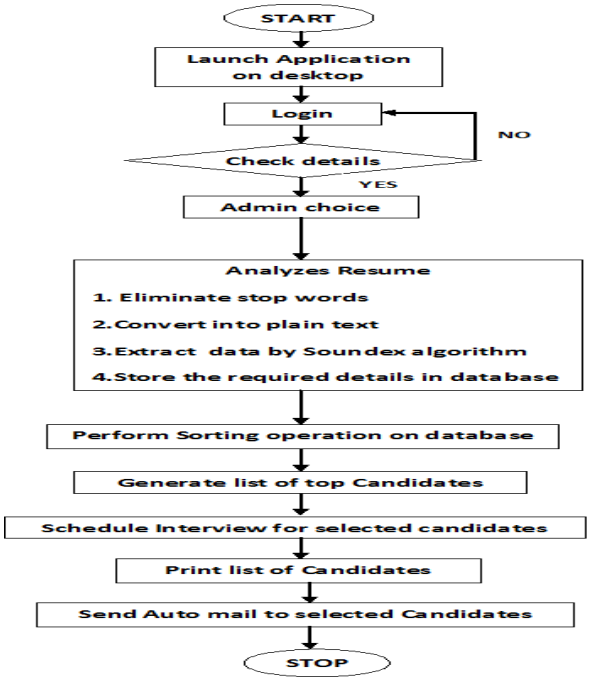

Fig.1. Flowchart for admin

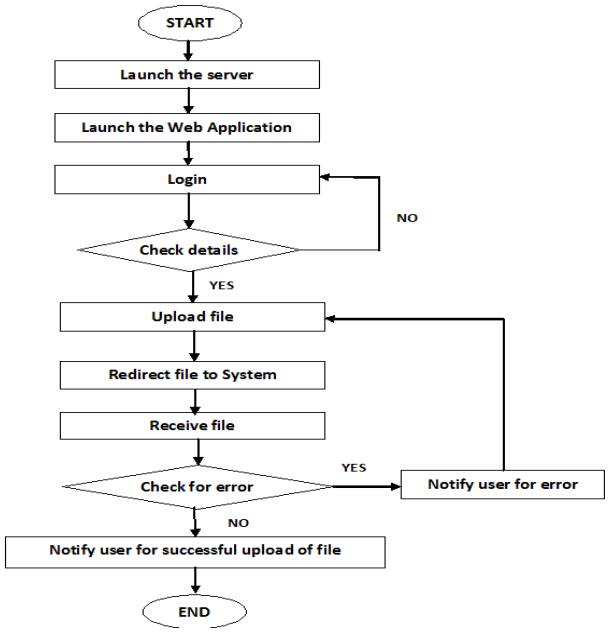

Fig.2. Flowchart for applicant

Implementation is done using keyword matching algorithm i.e. Soundex algorithm.

Soundex Algorithm:

The Soundex algorithm generates four-character codes based upon the pronunciation of English words. These codes can be used to compare two words to determine whether they sound alike. This can be very useful when searching for information in a database or text file, particularly when looking for names that are commonly misspelled.

Example:

The search functions of a customer database. When performing a text search for the surname, "Smith", people with the name, "Smythe", would not be found. However, as the Soundex code for both surnames is "S530", a phonetic Soundex-based search would find both customers. The codes and data could also be used to ask the user, "Did you mean Smythe?"

The Soundex algorithm applies a series of rules to a string to generate the four-character code. The encoding steps are as follows:

A. Ignore all characters in the string being encoded except for the English letters, A to Z.

B. The first letter of the Soundex code is the first letter of the string being encoded.

C. After the first letter in the string, do not encode vowels or the letters H, W and Y. These letters may affect the code by being present but are not encoded directly.

D. Assign a numeric digit between one and six to all letters after the first using the following mappings:

1: B, F, P or V
2: C, G, J, K, Q, S, X, Z
3: D, T
4: L
5: M, N
6: R

E. Where adjacent digits are the same, remove all but one of those digits unless a vowel, H, W or Y was found between them in the original text.

F. Force the code to be four characters in length by padding with zero characters or by truncation.

V. RESULT

Here, we have analyzed the proposed solution by examining the different conditions and results are as follows:

A. An applicant can apply only once f or a particular post.

B. Scheduling process requires administrator consent.

C. Sorting process can be done using different criteria's.

D. Vacancy period is fixed and apply option is locked after a decided fixed date automatically.

E. An internet connection is mandatory.

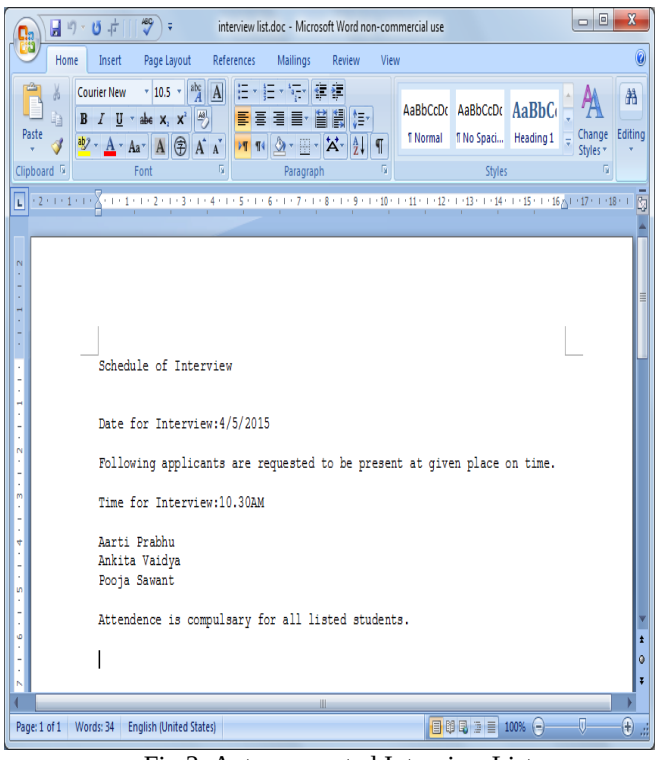

Fig.3. Auto-generated Interview List

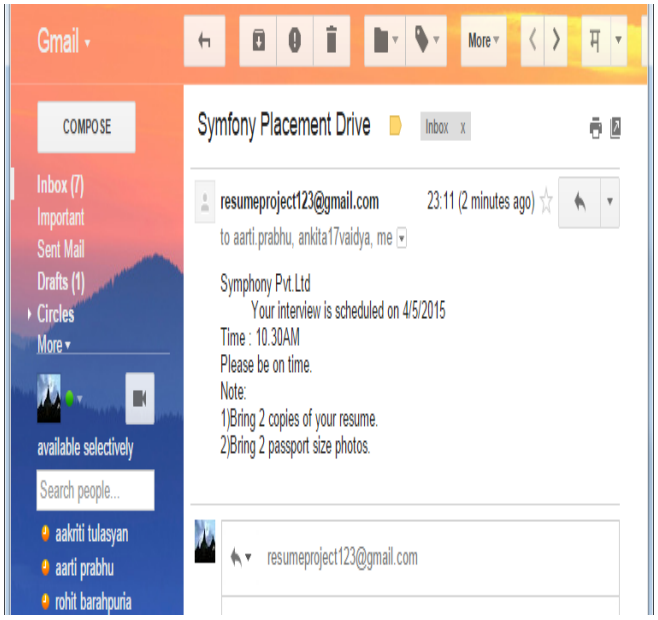

Fig.4. Automail

VI. LIMITATIONS

A. Require keywords for analysis of resume.
B. Updating of resume after uploading is not possible.

VII. CONCLUSION AND FUTURE SCOPE

We through proposed solution are making an attempt to automate and simplify the recruitment process. Time and efforts of both company officials and applicant is reduced. The system is unbiased which ensures reliability and integrity of the process.

Future scope shall include:

Resumes uploaded can be with any format without keywords also. The photo of applicant can also be the input to the system which will be extracted from the resume itself. The system currently working for only single job opening at a time so system can update to work for multiple job opening at a time

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