Project Seminar Report

On

APPLICANT TRACKING SYSTEM

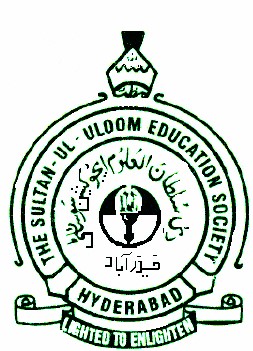
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1. **ABSTRACT**

An applicant tracking system (ATS) is a software application that enables the electronic handling of recruitment needs.  (ATS) is a recruitment software that helps you to organize and keep track of all of your job openings, resumes, candidates, clients, and contacts while letting you create a powerful yet simple hiring process. Applicant Tracking Systems filter candidate applications automatically based on given criteria such as keywords, skills, former employers, years of experience and schools attended.

Applicant tracking system stores the data of the applicants and helps the organization to find the best among the candidates based upon the needs of the organization. Several companies receive around thousands of resumes and it gets difficult to go through each and every resume. Instead of reviewing each and every application, the recruiter can focus squarely on candidates the ATS has identified as a great match.

The principal function of an ATS is to provide a central location and database for a company's recruitment efforts. ATSs are built to better assist management of resumes and applicant information. Functionality of an ATS is not limited to [data mining](https://en.wikipedia.org/wiki/Data_mining) and collection; ATS applications in the recruitment industry include the ability to automate the [recruitment](https://en.wikipedia.org/wiki/Recruitment) process through a defined [workflow](https://en.wikipedia.org/wiki/Workflow).

The aim is to develop a model that will upload multiple resumes at once and extract important details such as name, phone number, DOB, address, qualification, experience and all the relevant details from the resume after parsing and store it in a database. When all the resumes are updated in a database, a filter option will be given which will filter out all the resumes according to a filter criteria. Thus, applicant tracking systems (ATS) save a lot of time and will show the best among the applicants applied.

1. **INTRODUCTION**

**Problem of Recruitment:**

* **Talent pools:**

While placing a search for a particular job opening or vacancy, recruiters will come across innumerable applications. Although all these applications and CVs aren’t similar, they are equivalent to a great extent. Such trends make the job quite tough for recruiters. Screening the top talents amidst a pool of efficient candidates isn’t an easy affair and will lead to enormous administrative duties. This particular issue might affect you in the following ways:

* Prevent recruiter from performing successful recruitment.
* Make the screening process difficult.

Recruiters need to take special care while choosing the right people for the job. It’s here that many of them are facing critical challenges.

**Basic Background**:

Digital era has introduced new technological tools as part of our everyday work activity. Courtesy to modern technology and ever-developing manpower with relation to economic climate, application pool has grown to become very challenging task in candidate sorting. To be able to maintain with evolving world, engineers have developed applicant tracking system, a software to handle pre-selection process. “Screening robot” is designed to filter applicants based on their capabilities, work experience, education and other qualifications that are suitable for the open position. Employing the right person is most fundamental part in executing successful strategic planning and well-consolidated work force with capable competencies improves competitiveness and influences on every operative functions and decision-making. Companies that implemented ATS (applicant tracking system) found traditional human performed preselecting ineffective. This type of candidate monitoring was not only costly and time-consuming, but success rates of pre-selected applicants did not meet the expectations. Application has provided solution to sort applicants with less man-hour and expenditure on searching the right person, while allowing HR-managers to pay more observation for candidates who match the requirements. Applicant tracking system brings added value especially to companies that need technical manpower, where hard skills and are growing equally imperative to be soft skills. In addition, companies who are active in summer job employment and look for further assignment though internships, can benefit by selecting applicants account to criterion. While applying ATS does not result automatically in recruiting the best applicant, this study investigates the gain and threats that surrounds sourcing module in personnel recruitment and selection. Basis of this research is to carry out thorough qualitative analysis via interviews and define how differentiated and substantiated data of applicant results in objective evaluation. We analyse results and reflect to general performance of recruitment process, personnel turnover, cost-efficiency and measurement of competency.

**Drawbacks of Applicant Tracking Systems:**

We know how effective data analysis using the ATS model can help recruiters solve numerous issues. With a pool of employee data and employers’ information, staffing agencies can bring the best of both worlds. However, there are differences and deviations as well. Huge databases and large information pools can affect the fluidity and dexterity of the staffing process.

Recruitment companies should have their internal database which carries precise and accurate information about candidates. It’s here that the following threads play a significant role:

* **Very less information**: Some of the candidates enlist their names, contact details, and a basic CV with generalized information. Even though these types of CVs contain some information, it’s not easy to extract them.
* **Duplication of data**: This occurs at large, especially when potential applicants update their CVs and profiles.

Both these threads define how data extraction becomes a highly difficult affair for recruitment agencies. What they need is a strong and reliable database that contains accurate, precise, and targeted information.

**Objectives:**

To implement –

* CVs import and retrieving data into a database;
* Generating candidate’s profiles with candidate’s assessment tracking;
* Candidate search with filters.
* Candidate Screening and Ranking

**3. LITERATURE SURVEY**

To be able to understand technological impact in human resource management and personnel recruitment, we need to understand the essence of strategic management and hiring process. The theoretical framework is formed by studying existing theories utilizing textbooks, articles and available data in Internet about the product. The research databases Ebsco, Google Scholar, Theseus and Libguide were utilized to collect necessary literature structuring the thesis. Theory regarding HRM, personnel planning and forecasting is gathered from academic publications. Armstrong´s (2012) Handbook of Human Resource Management Practice and Bulmash´s (2010) Strategic Planning for Human Resources were important textbooks to cover fundamentals of recruitment part of HRM. Over the years organizations has been highlighted the importance of effective HRM practices in both scholarly and practitioners focused journals and magazines (Barber, 1998). Previous studies and basic theory of personnel planning and human resource process is presented to reader as the identification of relationships between recruitment strategies and developing applications that enable more successful practices to reach better outcomes. E-recruitment theory has been growing up since beginning of 21st century. Theoretical material is endeavored to keep up to date with most current experiences and developments in e-recruitment. Peter Cappelli (2001), Professor of Management at the Wharton School of the University of Pennsylvania was one of first to present four-step model of e-recruitment. Previous studies have thrust forward new models that illustrate the evolution and role of e-recruitment in HR-activities. Anna B. Holm (2013) studied core function and distinction between traditional e-recruitment and modern electronic recruitment process which aims to show how implementation of modern technology is changing the traditional recruitment process to more interactive and alterable solution. Reference material regarding e-recruitment processes and application tracking system was mainly gathered from scientific publications and previous academic researches, as well as existing material on Internet regarding examined subject. To this date there are no generally acknowledged models that assess relationship between recruitment sources and pre-hire recruitment outcomes to effectively quantify the results of e-recruit- 5 (40) ment. Material gathering regarding e-recruitment and applicant tracking system was conducted mainly from English sources, because there is limited amount of scientific research and unestablished terms in standard language. Unlike human resource management and recruiting, ATS has limited scientific publications, as it is rather new phenomenon and scientists has yet to discover wider effect of technology in modern human resource industry. Main source of information regarding ATS is gathered from find research, software guides, and infographics. Studied ATS softwares were: Workable, Greenhouse, Applicant Pro and SmartSearch. Due to limited source of bibliography applicant tracking system is presented from practical point of view as a supportive tool in e-recruitment through various examples and cases.

1. **SYSTEM ANALYSIS**

**Hardware Requirements:**

1. Memory: 40 GB Hard Disk
2. Motherboard: Genuine Intel
3. RAM: 4 GB
4. Processor: Dual Core to i7
5. I/O Devices: Keyboard, Mouse

**Software Requirements:**

1. Front-end: Python version 3 or above
2. IDE: Python environment
3. Packages: Python packages for NLTK ,String parsing
4. Back-end: connectivity with Python Django or Python Sqlite3
5. OS: Windows XP, 7, 8, 10 or Linux
6. **PLAN OF WORK**

* 4 weeks for literature survey.

This includes reading and understanding several research papers on basic NLTK Python and existing Application Tracking Systems.

* 4 weeks for studying about parsing and filtration algorithms along with database management.

We plan on studying about the various python packages for stream parsing or resume parsing and understanding the various algorithms on data filtrations.

* 5 weeks for implementing the project.
* 4 weeks for quantitatively measuring the efficiency of existing and proposed system.

We intend to do this by finding the success rate of adopted parsing and filtration algorithms.

* 3 weeks testing the software for errors and bugs.

Testing various parts of code for errors and bugs, testing the outputs for various predefined input conditions.

1. **REFERENCES**
2. Thesis on applicant tracking system written by Levan Gagua :

theseus.fi/bitstream/handle/10024/99061/Thesis\_Levan%20Gagua\_FINAL.pdf?sequence=1&isAllowed=y

1. What is Applicant tracking System :

<https://en.wikipedia.org/wiki/Applicant_tracking_system>

1. Why applicant tracking system is required? :

<https://hr-gazette.com/6-reasons-need-applicant-tracking-system/>

1. Problems of job recruitment :

<https://www.jobspikr.com/blog/problems-recruitment-agency-must-tackle/>