

Keyword Extraction using Python

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Abstract— In the previous decade, the Information Technology sector has seen a tremendous growth with increasing popularity of the Digital World. This increasing popularity is widely visible with everything going online whether it is online shopping, online food ordering, online banking, online job search and many more. There is no doubt that the job sector has seen increased popularity with the increasing digital world. Now, these online job search facility is being provided by many different companies, some even providing the option to apply for a job online. These companies have some very well defined web-sites, mobile applications where the users can register themselves, search for jobs and apply for jobs online. In these web-sites and applications when the user registers, he has to fill the Registration form as well as upload his Resume/CV making it a time consuming process. This is where the concept of Keyword Extraction comes into the picture. The basic idea is to make the user upload his Resume/CV, extract necessary information from the Resume/CV and fill it in the registration form automatically to speed up the registration process. Now this can be achieved with any web designing programming language and its web framework. Python has been the favourite language among programmers be it a beginner or experienced due to its easy code readability and dynamic typing ability. So, Python can be used to implement this idea and increase the speed of user registration.

Keywords: Keyword, Extraction, Resume/CV, Job, Python, Registration, web-site, company, online, process, module

I. INTRODUCTION

[1] In the present time people cannot imagine their life without technology. Various technologies surrounding us are helping people to live their life with more luxury. The technology sector has changed significantly and developed many ways to do a business. The increasing technology has increased the need for jobs and the job providing companies, HR companies has seen a significant growth due to technology. To get more work done in less time is the primary objective of the growing technology. So, this primary objective of technology is the primary objective of our project. Now in the era of technology, every business in the market has gone online. Today we can shop sitting at our home, order food from our favourite restaurant from home, search and apply for jobs from our home and many more. For people, there has always been a need consistent need for jobs. Now many companies provide with the facility to search for jobs with a click on your smartphone, some even giving the facility to apply for them from home. These companies provide such facilities to the users through different platforms like web-sites, mobile applications, etc. However there is still somewhere in this facilities where we can implement the primary objective of technology i.e. to get more work done in less time. Our project is also based on the online job facility and to reduce time of the user which is not yet implemented

in case of any company. The key to achieve this primary objective of technology in case of online job facility is Keyword Extraction.

II. KEYWORD EXTRACTION

Keyword Extraction can speed-up the process of Registration module in this online job facility. Now, to use any online job facility, the user first needs to register him on the web-site. During the registration process, on each and every online job facility web-site the user has to fill the registration form and upload his Resume/CV too, creating this process more time consuming. To avoid such a time consuming process, we have come up with the idea of applying Keyword Extraction to the Registration module. The idea behind applying Keyword Extraction is that to make the user upload his Resume/CV first on the web-site. After the user's Resume/CV is uploaded into the database, then the Keyword Extraction will be applied on the Resume/CV. The Keyword Extraction applied will search the necessary information that the web-site needs to register the user. After that the information gathered will be automatically filled in the registration form and the user can verify it and register successfully. This makes the Registration process faster and more user-friendly. It is also not time consuming as the normal online job web-sites present today. The job web-site developed has all the functions and features as that of any online job search web-sites present today. In the website, once the user registers he can search for jobs as per his interest as well as search jobs according to his location. The most interesting feature present nowadays in online job web-sites of applying jobs has also been added in this web-site so that the user can apply for any job as per his choice. The web-site built has separate section for employers where they can register and then post a new job where the users can apply for it. The web-site is basically a connection link between employees and employers, it helps them communicate and get jobs and employees respectively. Some snapshots of the web-site built are provided below.

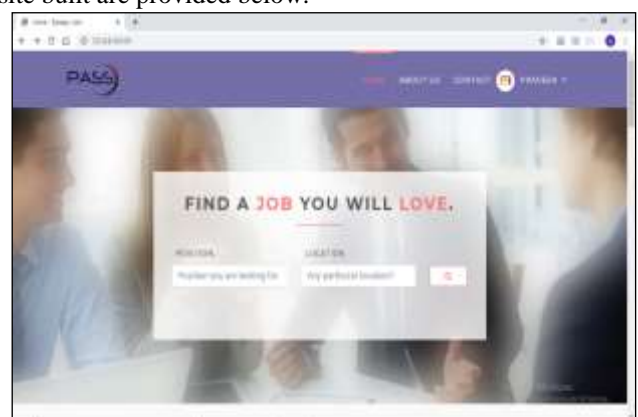


Fig. 1: Home Page



Fig. 2: Employer Dashboard

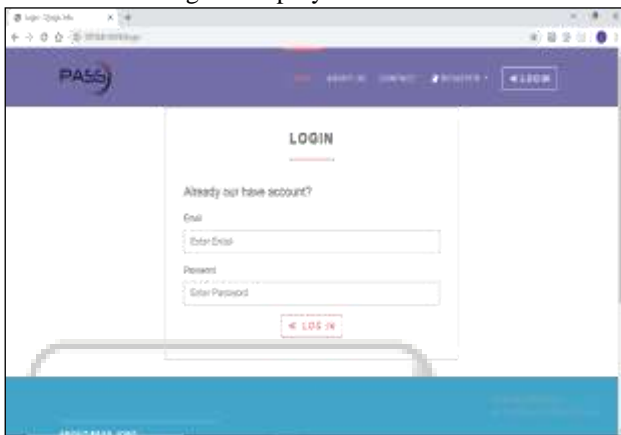


Fig. 3: Login Page

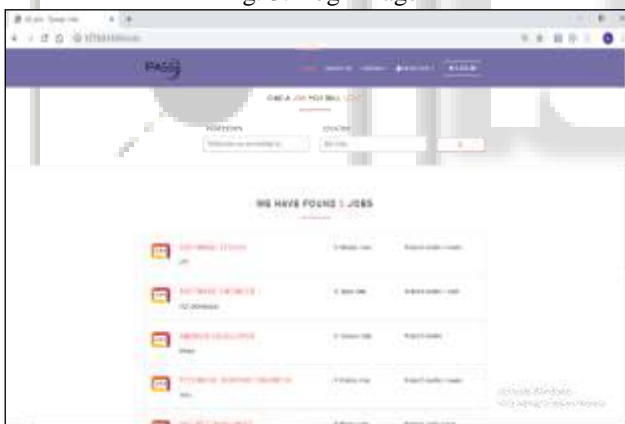


Fig. 4: Featured Jobs Page

III. TOOLS USED

A. Visual Studio Code

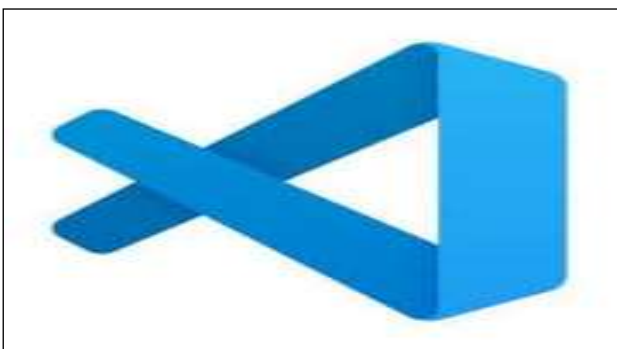


Fig. 5: Visual Studio Code

[2] Visual Studio Code is a free and easy to use source-code editor developed by Microsoft. VS Code is compatible with Windows, Linux and MacOS. It has many functions like intelligent code completion, debugging, code refactoring and many more. It can be customized by users like changing theme, creating keyboard shortcuts, installing different extensions and so on. In building this web-site, Visual Studio Code has been very helpful by being able to debug, run local-server for the website, its simplified view and easy to code in features.

B. HTML and CSS



Fig. 6: HTML and CSS

[3] The Hypertext Mark-up Language (HTML) is a mark-up language used to design web pages of a web-site. HTML has been one of the most used languages to design the front-end of a website. HTML defines the structure of a web-page as how it looks to the users. So basically HTML is used to define how the webpage appears to the users. [4] Cascading Style Sheets (CSS) can be used with HTML to make a web-site look more structured and perfect. CSS is used to define the look and layout of the actual content of the web page. We have used HTML with CSS for the User Interface (UI) and front-end of the web-site built.

C. Python



Fig. 7: Python and Django

[5] Python is a high-level object-oriented programming language that is widely used by programmers. Python has been the most favourite programming language for programmers for over a decade. It is widely used because of its features such as easy code readability, interpreted language, object-oriented language, it is dynamically typed, garbage collection and many more. [6] Django is a free open-source Python-based web framework. Django is used to develop complex web-sites that are database-driven. Django

has many benefits which include reusability, less code, rapid development, pluggability of components and many more. We have used Python-based web framework Django to build the back-end of the web-site that has connection to the actual database.

D. SQLite



Fig. 8: SQLite

[7] SQLite is a Relational Database Management System that was first released in 2004. The database created from SQLite is embedded in the software for which the database was designed. It is the most widely used database engines. It has server-less design. SQLite applications need fewer configurations as compared to client-server database systems. We have used SQLite3 to create the actual database that will store the information of the jobs and users.

IV. RESULT

The lengthy Registration process has been a consistent problem in case of online job search web-sties. According to our survey, more than 30% of users leave the online job search web-site because of its lengthy Registration process. To overcome this problem there was an idea of applying the concept of Keyword Extraction. Therefore, we created an online job search web-site and applied the concept of Keyword Extraction by making the user upload his Resume/CV and the necessary information will be extracted and automatically filled in the registration form after which the user can verify the information and then register more quickly as compared to other online job search web-sites. We found that after applying Keyword Extraction the Registration process became less time consuming and more user-friendly. The web-site created has passed the testing process and most of the test cases designed for it. Thus, the idea was successfully implemented on our created online job search web-sites.

V. CONCLUSION

In our research we found that in most of the online job search web-sites could be modified and made less time consuming with the concept of Keyword Extraction. The module that could be modified was the Registration module. Most of the online job search web-sites needed user to upload his Resume/CV as well as fill the basic online Registration form making the registration process time consuming. Many users, who want to register, leave the web-site due to the lengthy Registration process. We rectified this problem and came up with idea of applying the concept of Keyword Extraction to solve it. After successfully applying Keyword Extraction, now the user only needs to upload his Resume/CV while

registering and the necessary information will be extracted and filled into the Registration form automatically. After that, the user can verify the information filled automatically and register successfully in very less time as compared to the previous lengthy Registration process. Our research came to a conclusion that Registration module in online job search web-sites can be modified to make the registration process less time consuming by applying the concept of Keyword Extraction.

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