

CV Shortlisting (Web application)

CV Shortlisting

Version 1.1

Prepared By

Md.Moniruzzaman Pappu(172-35-248)

Supervised By

Mr. Md Rajib Mia

Daffodil International University

Department of Software Engineering

Date: 03 December, 2022

APPROVAL (Room- 603)

This **Project** titled on "CV sorting", submitted by Student Name: **Md.Moniruzzaman Pappu** (ID: 172-35-248) to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

BOARD OF EXAMINERS

Ju	Chairman
Dr. Imran Mahmud	
Head and Associate Professor	
Department of Software Engineering	
Faculty of Science and Information Technology	
Daffodil International University	
2Mrznan	Internal Examiner 1
Afsana Begum	
Assistant Professor	
Department of Software Engineering	
Faculty of Science and Information Technology	
Daffodil International University	
Farla Elalie	Internal Examiner 2
Dr. Md. Fazle Elahe	
Assistant Professor	
Department of Software Engineering	,
Faculty of Science and Information Technology	
Daffodil International University	
andrey	External Examiner
Mohammad Abu Yousuf, PhD	
Professor	
Institute of Information Technology	
Jahangirnogor University	

DECLARATION

I hereby declare that, this project has been done by me under the supervision of Md Rajib Mia Lecturer, and Department of SWE Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Sui	pervis	ed J	v:
-	OUT AND		Y.,

Mr. Md Rajib Mia

Lecturer

Department of Software Engineering

Daffodil International University

Submitted by:

Eppu

Moniruzzaman Pappu

ID: 172-35-248

Department of Software Engineering

Daffodil International University

ACKNOWLEDGMENT

Firstly, I would like to thank the Almighty who was with us always and shown us the right path. I am always thankful to Md Rajib Mia who took me here and makes the impossible to possible and without him our work would not complete. His continuous support, motivation and encouragement for us was unforgotten able. He made us a team and always worked with us as a perfect leader. He was always with us whenever we needed him. He continuously guided us in every step. I am very thankful to him.

ABSTRACT

Ideally recruiter will be able to find suitable job seekers among all. In reality recruiter gets thousands of applications or CVs, number can be more than expected, for a single post. So, it creates a big problem to find skilled and appropriate applicants. It takes more time to find expected one for the job. It also a time consuming process to do such task in this digital world. Also there is a chance to be biased for an applicant. There should be a CV sorting system which automatically finds top CVs based on skills and other criteria.

TABLE OF CONTENT

APPROVAL	iii
DECLARATION	iv
ACKNOWLEDGMENT	v
ABSTRACT	vi
TABLE OF CONTENT	vii
INTRODUCTION	1
MOTIVATION	2
PURPOSE	2
EXPECTED OUTCOME	3
RELATED WORKS	3
CHALLENGES	4
FINDING THE GAP	4
OVERVIEW	- 5
FEASIBILITY STUDY	6
FUNCTIONAL REQUIREMENT	7
NON-FUNCTIONAL REQUIREMENT	8
USE CASE DIAGRAM	9
USE CASE DESCRIPTION	12
ACTIVITY DIAGRAM	15
SEQUENCE DIAGRAM	18
CLASS DIAGRAM	19
ENTITY RELATIONSHIP DIAGRAM (ERD)	20
TOOLS AND TECHNOLOGIES	21
REFERENCES	22.

INTRODUCTION

CV sorting is a web based application which will help to connect with jobs candidates and organization. Candidates can upload or fill up form for specific jobs also they can see their score. In this application, qualified applicants can apply for suitable job based on their qualification. It's an free and fully open-source web application for all type of . On the other side, organization will find their perfect candidates also can select candidates easily. By using recruiting system, CV sorting application can reach a larger pool of potential applicants and speed up the enrollment process. It's very difficult for a company when they have lots of CV. It takes time to evaluate those CVs in time. In this digital world it is not acceptable. On the other hand, candidates sometimes fail to attend the interview in pre- defined time. When sorting CV manually, there is a chance of bias. It actually hampers a genuine candidate. There should be a system to maintain every issues perfectly.

MOTIVATION

Publish a job application to get people to work in any organization or workplace, almost anywhere in the world. When people apply for a job there are some problems. After such an application of hundreds or thousands of people it becomes very difficult to see well. How to choose the best CV from all is our main goal. I got inspired because of this. Through that, the processes along the way get easier and get it to a platform.

PURPOSE

The goal of the project is:

- 1. To create a platform where recruiter can get CV's and also review using this app.
- 2. Tailor Job seekers CV or Resume with sorting which are the best fit for each job they apply.
- 3. Automate analyze the CV using Natural Language Processing.
- 4. This application also provide job assessment test according to specific job requirements.

EXPECTED OUTCOME

The expected outcome from the successful implementation of the project will be:

- 1. Upload CV or Resume in PDF format.
- 2. Recruiter could Analyze CV's manually and also automatically.
- 3. Provide a Dashboard to show Job seekers insight.
- 4. Make a feature to provide job assessment test according to specific job requirements.

RELATED WORKS

I have found out that there are some CV analysis site as like DAXTRA and Resume Worded. But they are not shortlisting the CV to recruiters. There is no such kind of platform which can help the Recruiters to get a shortlisted and analyzed the information automatically.

CHALLENGES

- 1. Advertising the website.
- 2. Detects and understands complex layout CV and Resumes.
- 3. Make a feature to provide to get individual assessment test from applicants' according to each job requirements.
- 4. Create Automatic Dashboard for all applicants' insights.

FINDING THE GAP

Nowadays, in our countries, Recruiters are analyzing the CV or Resumes manually to their recruiting processes. No other application which provides to analyze and getting shortlist in an efficient way. Applicant tracking systems based software solutions automatically run through CVs and find the best candidate on your behalf. They rely on keywords too much and you can miss great applicants because they simply used the wrong terms in their applications. Furthermore, they don't tell you anything about candidate skills. Finally, they can be rigged if the candidate knows which keywords to use. We have an extra feature of personality tests. There will be given score in each answer. Also we will mix up personality assessment with the CV to get the perfect applicant for the job. There will be a standard CV format which should be followed if anyone uploads CV as PDF. The system can assess CV more precisely.

OVERVIEW

Ideally recruiter will be able to find suitable jobseekers among all. In reality recruiter gets thousands of applications or CVs, number can be more than expected, for a single post. So, it creates a big problem to find skilled and appropriate applicants. It takes more time to find expected one for the job. It also a time consuming process to do such task in this digital world. Also there is a chance to be biased for an applicant. There should be a CV sorting system which automatically finds top CVs based on skills and other criteria. There will be a form in the system by which applicant can fill up his/her CV. Also there will be another option for those whodon't want to fill up, they can upload their CV as PDF format according to standard format givenin the site. There will be predefined score against skills, CGPA and other criteria. Whenever any CV is registered the system automatically rearranges CVs based on scores. There will also be personality assessment process which will be done when CV is submitted. There will be predefined score against all answers. In this section personality tests will be done. The system automatically finds top personality applicant. Recruiter can consider both things to find suitable job seekers.

FEASIBILITY STUDY

In this document, we are also conduct some feasibility study to determine the viability of this idea such as ensuring whether the project is legally and technically feasible as well as economically feasible.

Economic Feasibility

Economic feasibility is analysis of a project's cost or revenue to determine whether it is logical and possible to complete.

No training cost needed for using this system because we will try to make this system user friendly.

Technically Feasibility

Technical feasibility analysis considers the technical requirements of the proposed system such as software, facilities, procedure. We can also apply some procedure or framework for developing the project such as Agile, Scrum. Therefore, this system is technically feasible because it's internal technical capability sufficient for the current technical resources.

Schedule Feasibility

Schedule feasibility is analysis the estimated time required for the whole project. We also prepared time estimation chart, which ensure that the project can be complete before the project become obsolete or unnecessary.

FUNCTIONAL REQUIREMENT

FR-1	Registration
Description	Super Admin provide username and password to recruiter.
Stakeholder	Admin

FR-2	Login
Description	Access the system using username and password.
Stakeholder	Recruiter

FR-3	Upload CV
Description	upload CV file.
Stakeholder	Job seeker, Recruiter

FR-4	Assessment Test
Description	User can be participating the test.
Stakeholder	Job seeker

FR-5	Dashboard
Description	Show all candidate information.
Stakeholder	Recruiter

FR-6	Shortlist
Description	A list of all candidate in sorted order.
Stakeholder	Recruiter

NON-FUNCTIONAL REQUIREMENT

NFR-1	Security
Description	The system is high secure. All the user's data's store in database with security.
Stakeholder	Job seeker, Recruiter

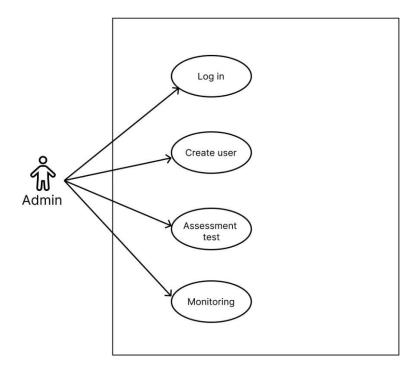
NFR-2	Get Service 5000 person at a time
Description	The system can provide service to 5000 people at a time so any user does not have to face any problem.
Stakeholder	Job seeker, Recruiter

NFR-3	Store 50gb data
Description	User can store up to 50gb.
Stakeholder	Recruiter, System

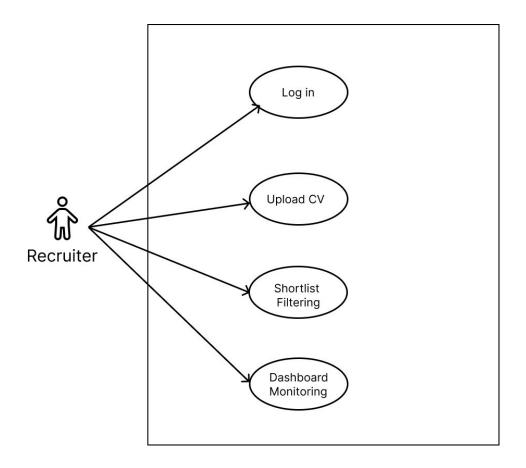
NFR-4	All-time Available
Description	This system is available for 24 hours.
Stakeholder	Job seeker, Recruiter

NFR-6	Reliable
Description	This system is reliable and ensure good performance.
Stakeholder	Job seeker, Recruiter

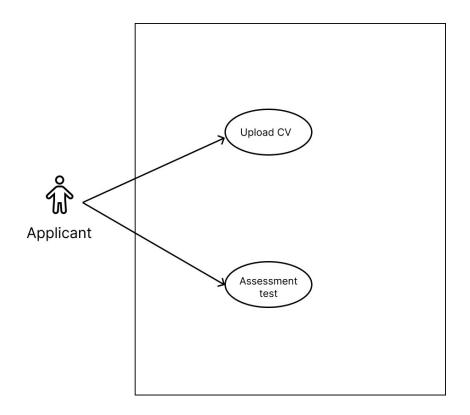
USE CASE DIAGRAM



Use case for Admin



Use case For Recruiter



Use case For Applicant

USE CASE DESCRIPTION

Use Case Name	Login
Actor	Admin
Description	User must be login himself to access the system.
Pre-Conditions	Must have username and password
Trigger	By clicking on log in button.
Flow Of Events	User need to enter the system.Click on login button.
Post Condition	User will get admin dashboard.

Use Case Name	Login
Actor	User
Description	User can enter the using login page.
Pre-Conditions	Must be registered in the system
Trigger	By clicking login button. Or facebook icon.
Flow Of Events	 Enter proper username and password in the system. Invalid username and password will not be accepted in the system and get massage. Log in with facebook.
Post Condition	User can enter the system.

Use Case Name	PDF Upload
Actor	User

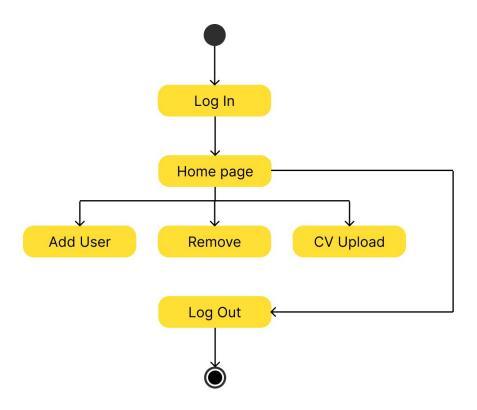
Description	User can upload one or more PDF to OCR.
Pre-Conditions	Must be logged in the system.
Trigger	By clicking PDF upload button.
Flow Of Events	Click on PDF upload but will get form.Upload one or more PDF.
Post Condition	User in uploaded page.

Use Case Name	Assessment test
Actor	User
Description	After CV submission user will take the test.
Pre-Conditions	Must be logged in the system.
Trigger	By clicking assessment test button.
Flow Of Events	Answer all the question.
Post Condition	User in submission page.

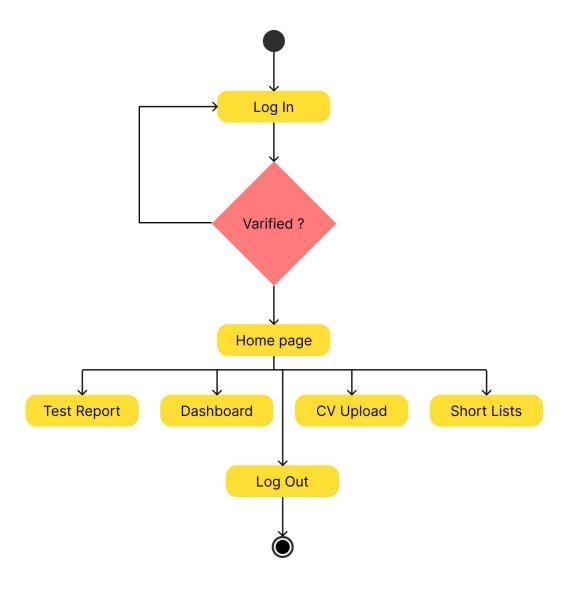
Use Case Name	Monitoring.
Actor	Recruiter
Description	Must be logged in the system.
Pre-Conditions	After all the submission is done.
Trigger	By clicking Result icon button.
Flow Of Events	The shortlisted page will display.
Post Condition	Will publish the sort listed page.

Use Case Name	Create user
Actor	Admin
Description	Can add or remove user
Pre-Conditions	Candidates must be registered.
Trigger	By clicking Add or remove button.
Flow Of Events	System will check the context.
Post Condition	After checking the context admin will remove or add candidates.

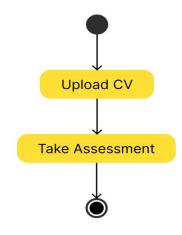
ACTIVITY DIAGRAM



Activity Diagram for Admin

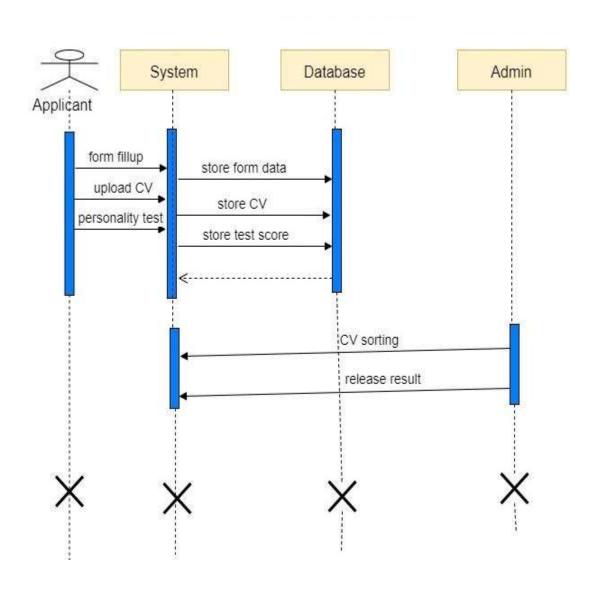


Activity Diagram for Recruiter

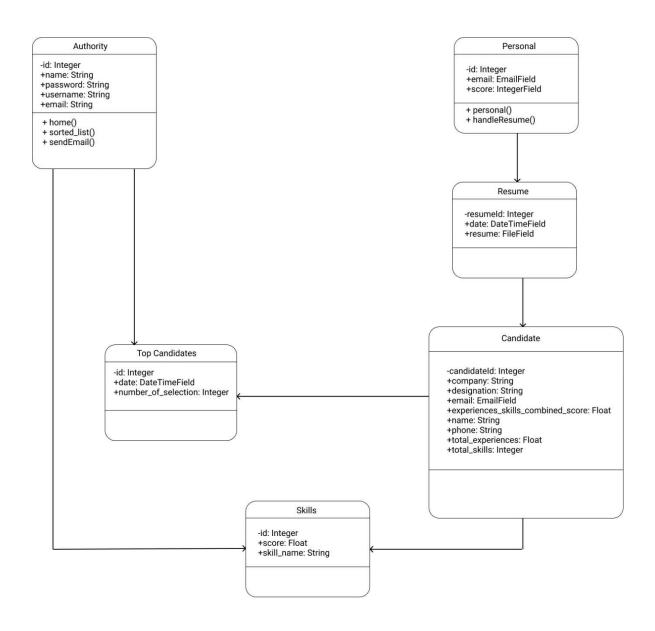


Activity Diagram for Applicant

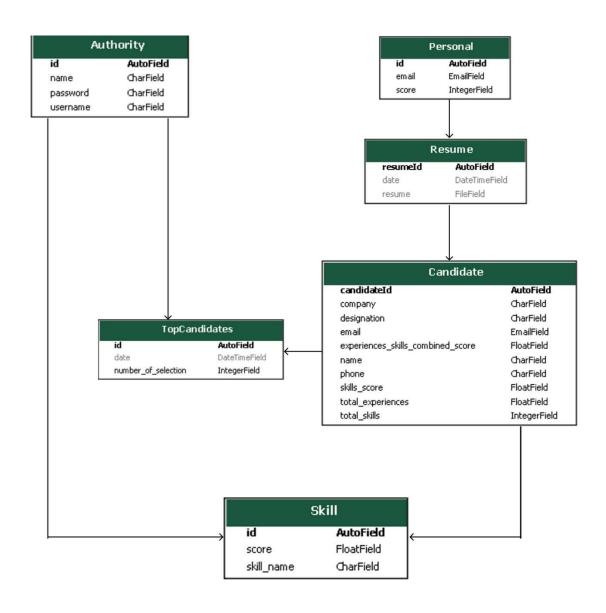
SEQUENCE DIAGRAM



CLASS DIAGRAM



ENTITY RELATIONSHIP DIAGRAM (ERD)



TOOLS AND TECHNOLOGIES

Frontend:

Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). HTML tells a browser how to display the content of web pages, while CSS styles that content. Bootstrap is a helpful framework for managing HTML and CSS.

JavaScript (JS). JS makes web pages interactive. There are many JavaScript libraries (such as jQuery, React.js,and Zepto.js) and for faster and easier web development.

Backend:

We are used to create the logic of websites and applications. Frameworks for programming languages offer lots of tools for simpler and faster coding. We used Django framework.

Database:

Our web application needs a place to store its data, and that's what a database is used for. There are two types of databases: relational and non-relational (the latter being subdivided into several categories), each having its pros and cons. We are using SQLite.

REFERENCES

References

- "NLTK Book." NLTK Book. Available at: https://www.nltk.org/book/. Accessed November
 27, 2022.
- Python, R. "Natural Language Processing With Python's NLTK Package Real Python." Natural Language Processing With Python's NLTK Package – Real Python.
 Available at: https://realpython.com/nltk-nlp-python/. Accessed November 27, 2022.
- djangoproject. "Django." Django Project. Available at: https://docs.djangoproject.com/en/4.1/. Accessed November 27, 2022.
- "Code to edit PDF in Python." Aspose Words Examples. Available at: https://products.aspose.com/words/python-net/edit/pdf/. Accessed November 27, 2022.
- 5. "Edit PDF files with Python." DEV
 Community
 - https://dev.to/stokry/edit-pdf-files-with-python-1e1j. Accessed November 27, 2022.
- Python, R. "Create and Modify PDF Files in Python Real Python." Create and ModifyPDF Files in Python – Real Python. Available at: https://realpython.com/creating- modifying-pdf/. Accessed November 27, 2022.
- 7. "Extracting and tokenizing words using nltk wrong output." Stack Overflow. Available at: https://stackoverflow.com/questions/57148173/extracting-and-tokenizing-words-using-nltk-wrong-output. Accessed November 27, 2022.

- Khemiri, A. "PDF Processing with Python." Medium. Available at: https://towardsdatascience.com/pdf-preprocessing-with-python-19829752af9f. Accessed November 27, 2022.
- 9. Python, R. "How to Work With a PDF in Python Real Python." How to Work With a PDF in Python Real Python. Available at: https://realpython.com/pdf-python/. Accessed November 27, 2022.
- 10. Tayo Ph.D., B. O. "Extracting Data from PDF File Using Python and R." Medium.

 Availableat: https://pub.towardsai.net/extracting-data-from-pdf-file-using-python-and-r-4ed8826bc5a1. Accessed November 27, 2022.
- 11. Farooq, U. "Python for Pdf." Medium. Available at: https://medium.com/@umerfarooq_26378/python-for-pdf-ef0fac2808b0. Accessed November 27, 2022.
- 12. "Working with PDF files in Python GeeksforGeeks." GeeksforGeeks. Available at: https://www.geeksforgeeks.org/working-with-pdf-files-in-python/. Accessed November 27, 2022.
- 13. Humania, S. (2021, September 21). ইপাব (epub) শিভাবববানাবেহয়? Sanjay Humania's Blog. https://www.sanjayhumania.com/epub/
- 14. Rosebrock, A. (2021, July 4). Using Tesseract OCR with Python.
 PyImageSearch.https://www.pyimagesearch.com/2017/07/10/using-tesseract-ocr-python/
- Pocs, M. (2020, May 25). PDF Text Extraction in Python Towards Data Science.
 Medium. https://towardsdatascience.com/pdf-text-extraction-in-python-5b6ab9e92dd

- 16. Support, A. D. C. A. (2020, February 27). Convert RTF to PDF Using Python, Convert rtf to pdf Python. Doc Conversion API Blog. https://www.docconversionapi.com/blog/convert-rtf-to-pdf-using-python/
- 17. C. (2020, July 6). *How to Convert RTF to DOCX in Python Cloudmersive*. Medium.https://cloudmersive.medium.com/how-to-convert-rtf-to-docx-in-python-8b2b318a89c5
- 18. Read & Edit PDF & Doc Files in Python. (2020, February 20). DataCamp Community. https://www.datacamp.com/community/tutorials/reading-and-editing-pdfs-and-word-documents-from-python
- 19. Rockikz, A. B. M. (2021, July 24). How to Extract Text from Images in PDF Files with Python Python Code. Https://Www.Thepythoncode.Com/.
 https://www.thepythoncode.com/article/extract-text-from-images-or-scanned-pdf-python
- 20. A. (2019, December 13). Extract text from pdf or image in Python. A Name Not YetTaken AB. https://www.annytab.com/extract-text-from-pdf-or-image-in-python/
- 21. T. (2019b, December 26). *GitHub tesseract-ocr/tesseract: Tesseract Open Source OCREngine (main repository)*. GitHub. https://github.com/tesseract-ocr/tesseract
- 22. Rosebrock, A. (2021b, August 6). *Installing Tesseract, PyTesseract, and Python OCR packages on your system*. PyImageSearch.
 - https://www.pyimagesearch.com/2021/08/16/installing-tesseract-pytesseract-and-python-ocr-packages-on-your-system/

23. Gori, R. (2019, April 8). *PyTesseract: Simple Python Optical Character Recognition*. StackAbuse. https://stackabuse.com/pytesseract-simple-python-optical-character-recognition/

THE END