

SKILL / JOB RECOMMENDER APPLICATION

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TABLE OF CONTENTS

| CHAPTER NO. | TITLE |
|--------------------|--|
| 1 | INTRODUCTION 1.1 PROJECT OVERVIEW 1.2 PURPOSE |
| 2 | LITERATURE REVIEW 2.1 EXISTING PROBLEM 2.2 REFERENCES 2.3 PROBLEM STATEMENT DEFINITION |
| 3 | IDEATION & PROPOSED SOLUTION 3.1 EMPATHY MAP CANVAS 3.2 IDEATION & BRAINSTORMING 3.3 PROPOSED SOLUTION 3.4 PROBLEM SOLUTION FIT |
| 4 | REQUIREMENT ANALYSIS 4.1 FUNCTIONAL REQUIREMENT 4.2 NON-FUNCTIONAL REQUIREMENT |
| 5 | PROJECT DESIGN 5.1 DATA FLOW DIAGRAMS 5.2 SOLUTION & TECHNICAL ARCHITECTURE 5.3 USER STORIES |

| | |
|-----------|--|
| 6 | PROJECT PLANNING & SCHEDULING |
| | 6.1 SPRINT PLANNING & ESTIMATION |
| | 6.2 SPRINT DELIVERY SCHEDULE |
| | 6.3 REPORTS FROM JIRA |
| 7 | CODING & SOLUTIONING |
| | 7.1 FEATURE 1 |
| | 7.2 FEATURE 2 |
| | 7.3 DATABASE SCHEMA |
| 8 | TESTING |
| | 8.1 TEST CASES |
| | 8.2 USER ACCEPTANCE TESTING |
| 9 | RESULTS |
| | 9.1 PERFORMANCE METRICS |
| 10 | ADVANTAGES & DISADVANTAGES |
| 11 | CONCLUSION |
| 12 | FUTURE SCOPE |
| 13 | APPENDIX |

CHAPTER 1

INTRODUCTION

1.1 PROJECT OVERVIEW

This application is a skill recommender solution through which the fresher or the skilled person can log in and find jobs by using the search option or they can directly interact with the chatbot and get their dream job.

To develop an end-to-end web application capable of displaying the current job openings based on the user skillset. The user and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. Users will interact with the chatbot and can get recommendations based on their skills. We can use a job search API to get the current job openings in the market which will fetch the data directly from the webpage.

1.2 PURPOSE

The purpose of this project is to make it easy for users to find jobs and internship opportunities under one single platform. It assists the users to filter out job searches and find the relevant job that matches their skills. This platform not only helps users to find jobs but also helps job recruiters to take in candidates to their company whom they think perfectly fit the position available.

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING PROBLEM

Technology hasn't made networking any easier, it's still challenging. People are too afraid and time-constrained to network until they really have to, as when they are looking for a new job. The process of connecting with the recruiters through networking also takes a lot of time. The greatest approach to get a new job is networking, as it is widely recognised but most people are unaware of how to do it effectively.

Job criteria are abundant in job descriptions, and the recruiter often gives each one equal weight. While some firms are better at correctly identifying the essential talents for a position, if a job need calls for more than five skills, those skills need to be given a different weighting.

Because talents are not standardised, potential candidates are unsure of whether their skills are close enough to the requirements to match.

First-time job seekers as well as people who have been out of the workforce for a long time sometimes run across this issue. On the one hand, time is of the essence, and you don't want to squander it searching in vain. On the other hand, you must be sure to follow up on any job lead you come across.

2.2 REFERENCE

- [1] Montuschi, P., Lamberti, F., Gatteschi, V. and Demartini, C., 2015. A semantic recommender system for adaptive learning. *IT Professional*, 17(5), pp.50-58.
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- [5] Fakhar, M.Z., Yalcin, E. and Bilge, A., 2022. IESR: Instant Energy Scheduling Recommendations for Cost Saving in Smart Homes. *IEEE Access*, 10, pp.52178-52195.
- [6] Ning, H., Dhelim, S., and Aung, N., 2019. PersoNet: Friend recommendation system based on big-five personality traits and hybrid filtering. *IEEE Transactions on Computational Social Systems*, 6(3), pp.394-402.
- [7] Dhelim, S., Ning, H., Aung, N., Huang, R. and Ma, J., 2020. Personality-aware product recommendation system based on user interests mining and meta path discovery. *IEEE Transactions on Computational Social Systems*, 8(1), pp.86-98.
- [8] Han, Y., Han, Z., Wu, J., Yu, Y., Gao, S., Hua, D. and Yang, A., 2020. Artificial intelligence recommendation system of cancer rehabilitation scheme based on IoT technology. *IEEE Access*, 8, pp.44924-44935.

2.3 PROBLEM STATEMENT DEFINITION

To develop an end-to-end web application capable of displaying the current job openings based on the user skillset. The user and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. Users will interact with the chatbot and can get the recommendations based on their skills. We can use a job search API to get the current job openings in the market which will fetch the data directly from the webpage. Although in the literature exists a variety of techniques and strategies used as part of job recommender systems, most of them fail to recommend job vacancies that fit properly to the job seekers profiles. Thus present a general panorama of job recommendation task aiming to facilitate research and real-world application design regarding this important issue, job matching, job seeking, job search and of job recommendation system. Proposed a framework for job recommendation task. At the time of commencement students/recruiters want to sign up and fill in the needed details. For the students who need to upload their resumes, the system will analyse the resume spontaneously and fill-up the requisite data. Determining the skill keywords from the resume and then matching them with the suitable jobs of their skills. The students/recruiters can add, update, delete their specifications always. Recruiters can create new jobs/internships, edit the previous jobs, and close the response of the jobs at any time also, they get personalized job recommendations based on their skills. The recruiters can post their new job, the system will promptly transmit push notifications to the suggested applicants. The contestants can take assessments in every domain to boost their skills which we have provided. Assessment's grade is used for creating leader board which is shown to the recruiters with the certification grades.

CHAPTER 3

IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

An empathy map is a short, easy-to-understand visual that gathers information about a user's actions and attitudes. It is a valuable tool for assisting teams in a greater understanding of their users. Understanding the major issue and the person experiencing it is essential for developing an effective solution. The map-making exercise makes participants analyze things from the user's point of view, as well as his or her goals and obstacles.



Since a lot of companies give advertise job opportunities and offers that turn out to be fake. This portal eliminates the chances of fraudulent companies providing false information. With the help of an AI-supported search engine that filters out the relevant job for users based on their skills.

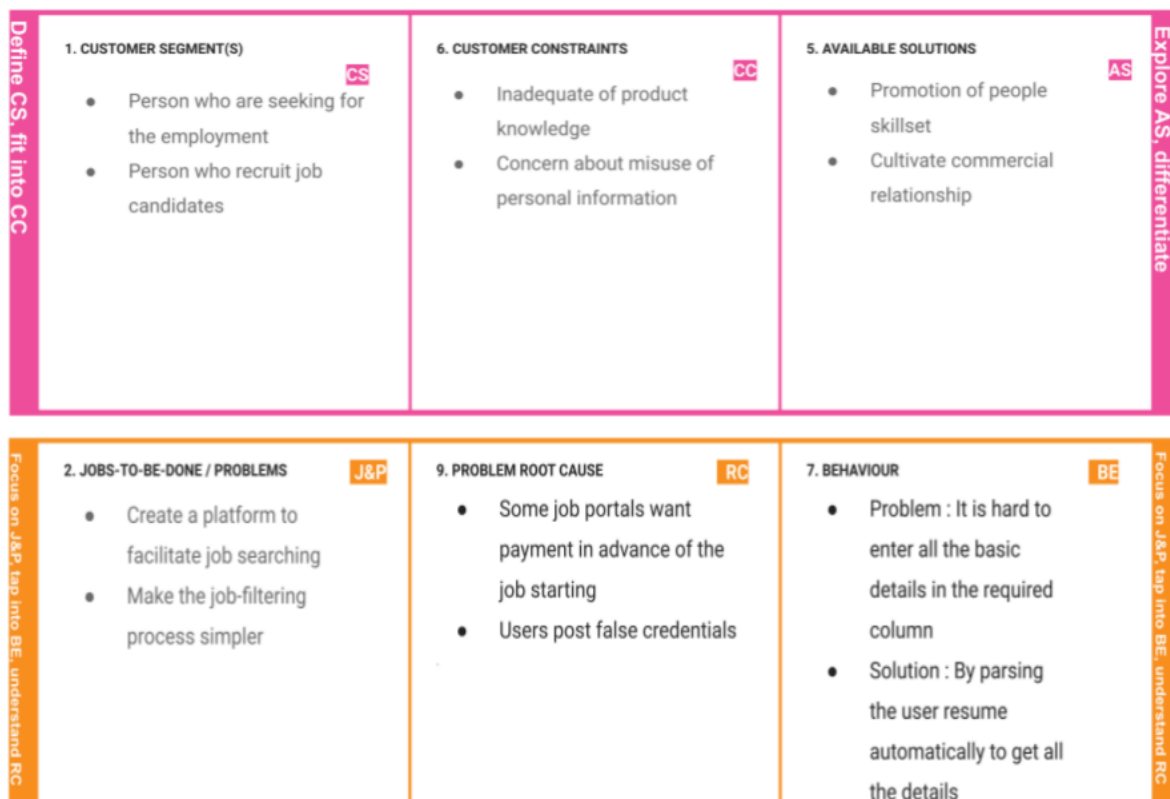
3.2 IDEATION & BRAINSTORMING

In Ideation and Brainstorming phase there were many ideas that come to mind which address the problem statement. Ideas like to develop a job website with various web pages and makes the website more efficient and useful to job seekers in which management of the users data will be in a proper manner, fake job detection, Efficient connectivity between job seekers and recruiters, Students or Recruiters can add or delete or update their specification at all times, Resume extraction or resume parsing helps in analyzing, storing extracted useful information from the uploaded CV automatically, Job Seekers are recommended skills to gain and ways to strength their resume based on their preferred job roles, Determining the skill keywords from the resume and then matching them with a suitable job of their skills, Can conduct an online test which will check the users skill in a particular domain and their score will be provided and showed in the website these assessment's grade is used for creating leader board which is viewed by recruiters with the certification, Filtering of candidates based on their skills, developing a chatbot to give personalized job recommendations for the candidates, users can navigate to any web pages without any interruption, Backup and recovery options for users account and job search history.

3.3 PROPOSED SOLUTION

| S. No | Parameter | Description |
|-------|---------------------------------------|---|
| 1. | Problem Statement | Field-based job searching is time-consuming |
| 2. | Idea / Solution description | Recommendation System |
| 3. | Novelty / Uniqueness | Refinement of the job fields |
| 4. | Social Impact / Customer Satisfaction | opens doors for every user as there is free access |
| 5. | Business Model (Revenue Model) | Notifying about the platform |
| 6. | Scalability of the Solution | Scalable at professional and environmentally friendly |

3.4 PROBLEM SOLUTION FIT



| | | | | | | | | |
|---|---|--|----------------|--------------|--------------------|-------------------|--|--|
| <div>3. TRIGGERS</div> <div>TR</div> <div>Push Notification</div> | <div>10. YOUR SOLUTION</div> <div>SL</div> <div>Created a web platform for the students and recruiters. The system will analyze the resume spontaneously and fill in the requisite data for the students who need to upload their resumes. They get personalized job recommendations based on their skills.</div> | <div>8. CHANNELS of BEHAVIOUR</div> <div>CH</div> <div><div>• Apply for jobs</div><div>• Initial Level of Assessment</div></div> | | | | | | |
| <div>4. EMOTIONS: BEFORE / AFTER</div> <div>EM</div> <table><tr><td>Before</td><td>After</td></tr><tr><td>More paperwork</td><td>Easy Process</td></tr><tr><td>No Proper Platform</td><td>Skillset platform</td></tr></table> | Before | After | More paperwork | Easy Process | No Proper Platform | Skillset platform | | |
| Before | After | | | | | | | |
| More paperwork | Easy Process | | | | | | | |
| No Proper Platform | Skillset platform | | | | | | | |

Recruiters can post for the job openings in our application. Users can interact with the chatbot via entering your query to the bot, it guides the users in a proper way. List of jobs are uploaded into the database and the chatbot is also connected with the database. By using this web application job seekers directly choose their job.

CHAPTER 4

REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT

To develop this job portal, React - a javascript framework has been adopted since React.js is an open source JavaScript library that is used for buliding user interfaces specifically for single-page applications. It's used for handling the view layer for web and mobile apps. React also allows us to create reusable UI components. React allows developers to create large web applications that can change data, without reloading the page. The main purpose of React is to be fast, scalable, and simple. It works only on user interfaces in the application. This corresponds to the view in the MVC template. It can be used with a combination of other JavaScript libraries or frameworks, such as Angular JS in MVC. In React, a set of immutable values are passed to the components renderers as properties in its HTML tags. The component cannot directly modify any properties but can pass a call back function with the help of which we can do modifications. This complete process is known as "properties flow down; actions flow up".

[HTML](#) (the Hypertext Markup Language) and [CSS](#) (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the *structure* of the page, CSS the (visual and aural) *layout*, for a variety of devices. Along with [graphics](#) and [scripting](#), HTML and CSS are the basis of building Web pages and Web Applications.

Flask is a web framework, it's a Python module that lets you develop web applications easily. It's has a small and easy-to-extend core: it's a microframework that doesn't include an ORM (Object Relational Manager) or such features. Unlike the Django framework, Flask is very Pythonic. It's easy to get started with Flask, because it doesn't have a huge learning curve. On top of that it's very explicit, which increases readability.

The general availability of IBM SmartCloud Notes, based on the software as a service (SaaS), has been announced and is ready to use. IBM SmartCloud Notes provides a lot of services to help you work.

IBM has integrated the essential tools for social business in the cloud: enterprise-grade file sharing, communities, instant messaging, web meetings, user profiles, mail and calendar.

| FR No. | Functional Requirement (EPIC) | Sub Requirement |
|--------|-------------------------------|---|
| FR-1 | User Registration | Registration through Phone number Registration through Gmail Registration through username |
| FR-2 | User Confirmation | Confirmation via Email |
| FR-3 | Chatbot | This chat-bot assists the users with the problem raised by the user and provides a solution regarding job searches. |
| FR-4 | User login | Mail ID / Phone Number |
| FR-5 | User Search | The user searches are filtered and the results are provided according to their skill set. |
| FR-6 | User-profile | The user can edit their profile and update their skills and resume. |

4.2 NON - FUNCTIONAL REQUIREMENT

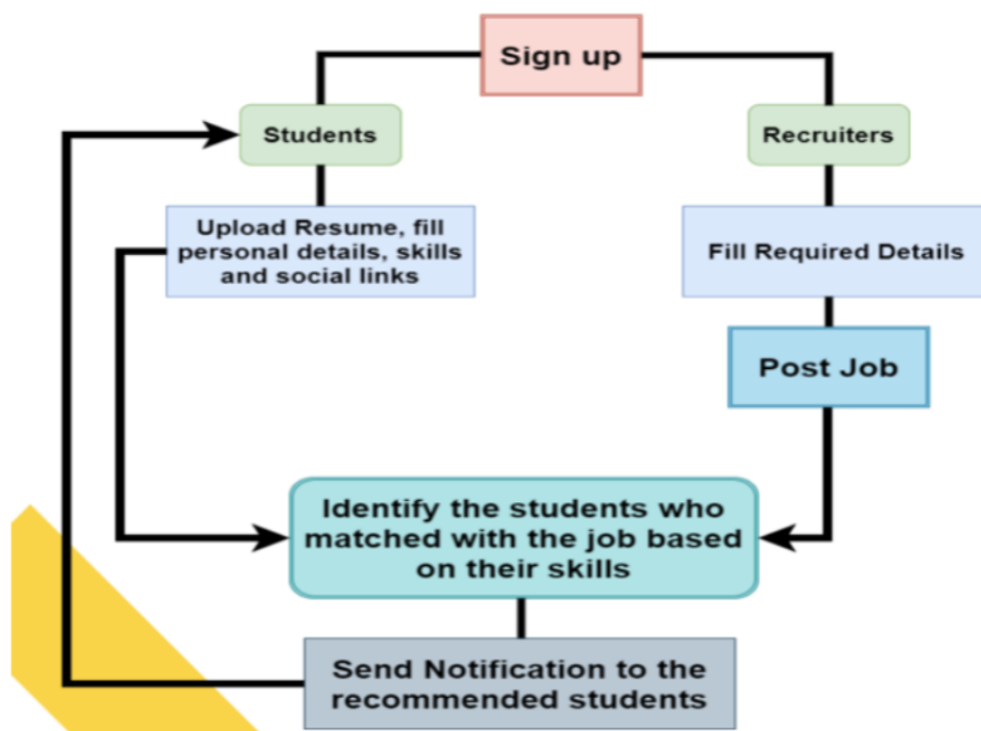
| NFR No. | Non-Functional Requirement | Description |
|---------|----------------------------|--|
| NFR-1 | Usability | This application can be used by job seekers to log in and search for a job based on him/her skill set and also the webpage will be designed in such a way that any non-technical user can too easily navigate through it and complete the job registration work. |
| NFR-2 | Security | This application is secure with a separate login for job seekers as well as job recruiters. |
| NFR-3 | Reliability | This application is open-source and feel free to use, it without any payment process. The enormous job openings will be provided to all the job seekers without any limitations. |
| NFR-4 | Performance | The users get quicker updates and results based upon their searches regarding their particular skill. |
| NFR-5 | Availability | This application is available for a wide range of job openings and recruitment options. |
| NFR-6 | Scalability | The response time of the application is faster compared to any other application and increasing the storage space of database can increase the number of users. |

CHAPTER 5

PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enter and leave the system, what changes the information, and where data is stored.

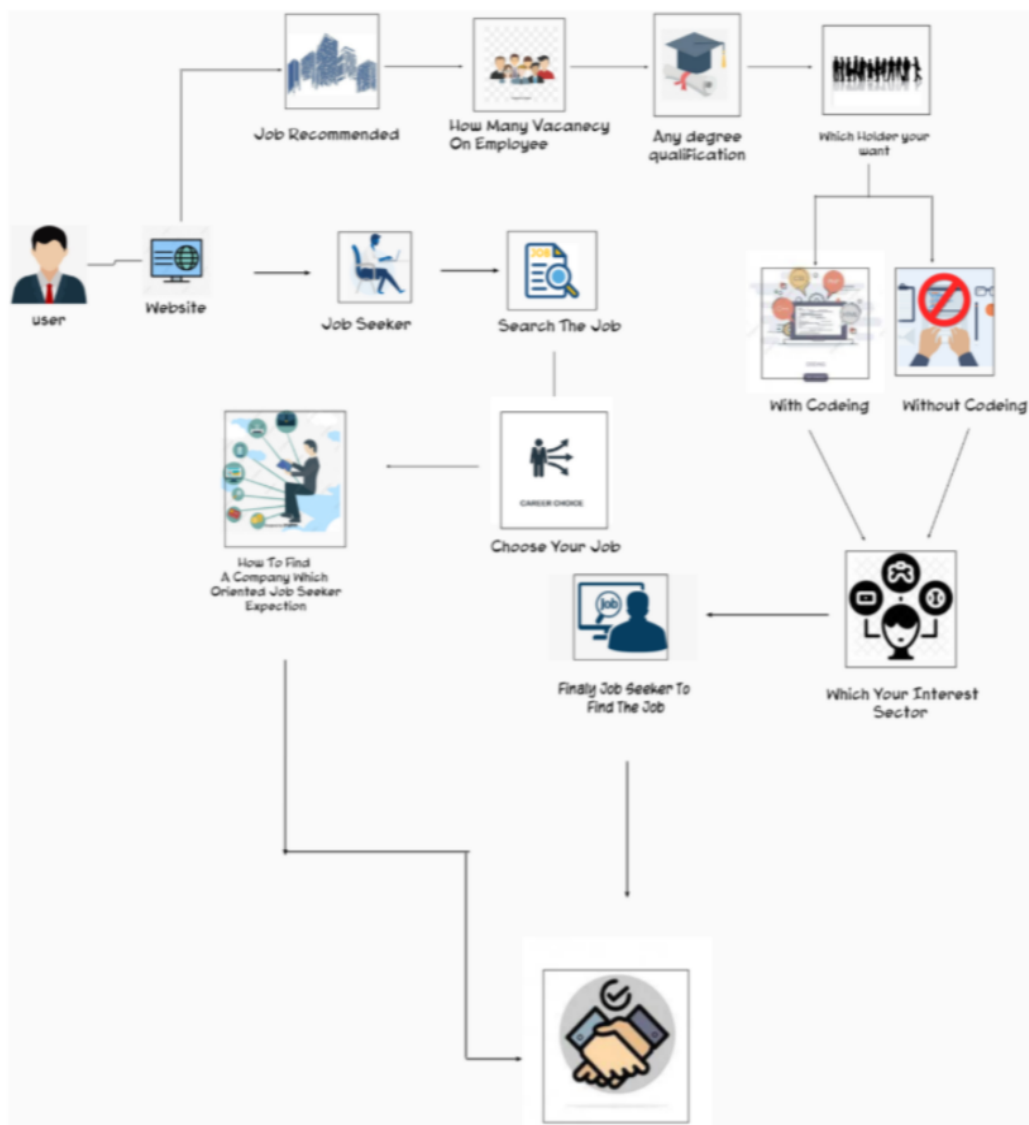


5.2 SOLUTION & TECHNICAL ARCHITECTURE

Solution architecture is a complex process - with many sub processes - that bridges the gap between business problem and technology solutions.

Jobs must be recommended based on the skills and experience of the candidate.

The job recommendation engine makes the conversion, and the company or job is moved up in the view list or priority list.



5.3 USER STORIES

| FUNCTIONAL REQUIREMENT | USER STORY NUMBER | USER STORY/ TASK |
|------------------------|-------------------|---|
| UI Design | USN-1 | As a User, I can see and experience an excellent user interface in the website. |
| Registration | USN-2 | As a User, I have to create account and verify using mail |
| Registration | USN-3 | As a Recruiter, I have to create account and verify using mail |
| Login | USN-4 | As a User, I can login into the application by entering the E-mail and password. |
| Job search | USN-5 | As a User, I can search for jobs by categories such as salary , location , Role & etc., |
| Recommended job | USN-6 | As a User, I get jobs based on my skillset |
| Bookmark | USN-7 | As a User, I can bookmark or tag any number of job posts for quick access |
| Remove Fraudulent job | USN-8 | The application analyses the job posting by the recruiters and remove fake job posts. |
| Develop a chatbot | USN-9 | As a User, I can able to interact with the application and clarify the doubt. |
| Get a Job alerts | USN-10 | As a job seeker, I can get Immediate notification after the new job has been posted based on the skill. |
| Deployment | USN-11 | The system is deployed on the IBM cloud. It is made available for use. |

CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

| Sprint | Functional Requirement | USN | User story / Task | Story Points | Priority |
|----------|------------------------|-------|---|--------------|----------|
| Sprint-1 | UI Design | USN-1 | As a user, I can see and experience an excellent user interface in the website | 6 | Medium |
| Sprint-1 | Registration | USN-2 | As a User, I have to create account and verify using mail | 4 | High |
| Sprint-1 | Registration | USN-3 | As a Recruiter, I have to create account and verify using mail | 7 | High |
| Sprint-1 | Login | USN-4 | As a User, I can login into the application by entering the E-mail and password. | 5 | High |
| Sprint-2 | Job Search | USN-5 | As a User, I can search for jobs by categories such as salary , location , Role. | 3 | Medium |
| Sprint-2 | Recommendation | USN-6 | As a User, I get jobs based on my skillset | 5 | High |
| Sprint-3 | Bookmark Job | USN-7 | As a User, I can bookmark or tag the jobs. | 2 | Low |
| Sprint-3 | Remove Fraudulent Job | USN-8 | The application analyses the job posting by the recruiters and remove fake job posts. | 4 | Medium |
| Sprint-3 | Develop a chat bot | USN-9 | As a User, I can able to interact with the appplication and clarify the doubt. | 3 | Low |
| Sprint-4 | Get a job Alerts | USN- | As a job seeker, I can get Immediate | 3 | Medium |

| | | | | | |
|----------|------------|--------|--|---|------|
| | | 10 | notification after the new job has been posted based on the skill. | | |
| Sprint-4 | Deployment | USN-11 | The system is deployed on the IBM cloud. It is made available for use. | 8 | High |

6.2 SPRINT DELIVERY SCHEDULE

| Sprint | Total story points | Duration | Sprint Start Date | Sprint End date | Story pints complet ed | Sprint Release date |
|---------------|---------------------------|-----------------|--------------------------|------------------------|-------------------------------|----------------------------|
| Sprint-1 | 20 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | 20 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | 20 | 05 Nov 2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | 20 | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | 20 | 19 Nov 2022 |

Average Velocity = Sprint Delivery / Velocity

= 20 / 6

= 3.33

6.3 REPORTS FROM JIRA

Does your team need more from Jira? [Get a free trial of our Standard plan.](#)

Projects / Skill / Job Recommender

Backlog

Search [] Epic [] Insights []

SJR Sprint 1 24 Oct – 29 Oct (4 issues) 0 0 22 Complete sprint []

To complete UI design, Registration, and log in.

- SJR-2 UI design **DESIGNING** 6 **DONE** []
- SJR-5 Log-In Into the application by using E-mail and password **LOG-IN** 4 **DONE** []
- SJR-4 Registration for Recruiter by verifying their mail **REGISTRATION** 7 **DONE** []
- SJR-3 Registration for users by verifying their mail **REGISTRATION** 5 **DONE** []

+ Create issue

SJR Sprint 2 31 Oct – 5 Nov (2 issues) 0 1 8 Complete sprint []

For job search and Recommendations for jobs

- SJR-8 Job Search by categories (salary, Location and etc..) **SEARCHING** 3 **DONE** []
- SJR-9 Recommended job based on skillset **RECOMMENDATION** 5 **DONE** []

+ Create issue

SJR Sprint 3 7 Nov – 12 Nov (3 issues) 0 0 9 Complete sprint []

goal is to develop a chat bot, to remove fake jobs and bookmark for quick access

- SJR-14 Bookmark of job posts for quick Access **BOOKMARK** 2 **DONE** []
- SJR-16 To interact with the Application, have to develop a chatbot **CHAT BOT** 3 **DONE** []
- SJR-15 Remove Fake Job posts **FAKE JOBS** 4 **DONE** []

+ Create issue

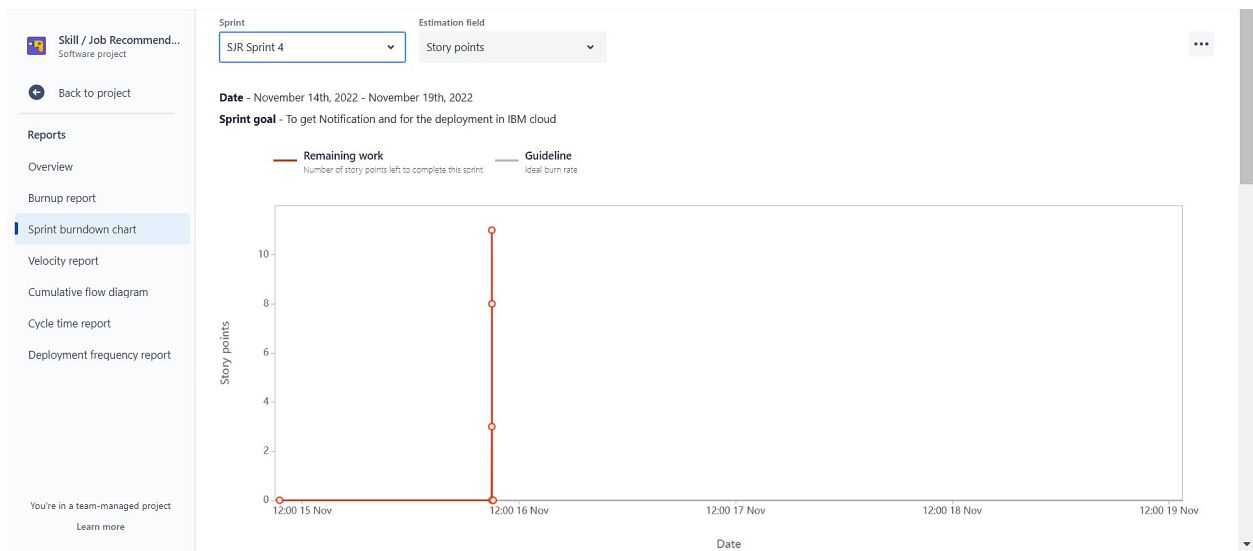
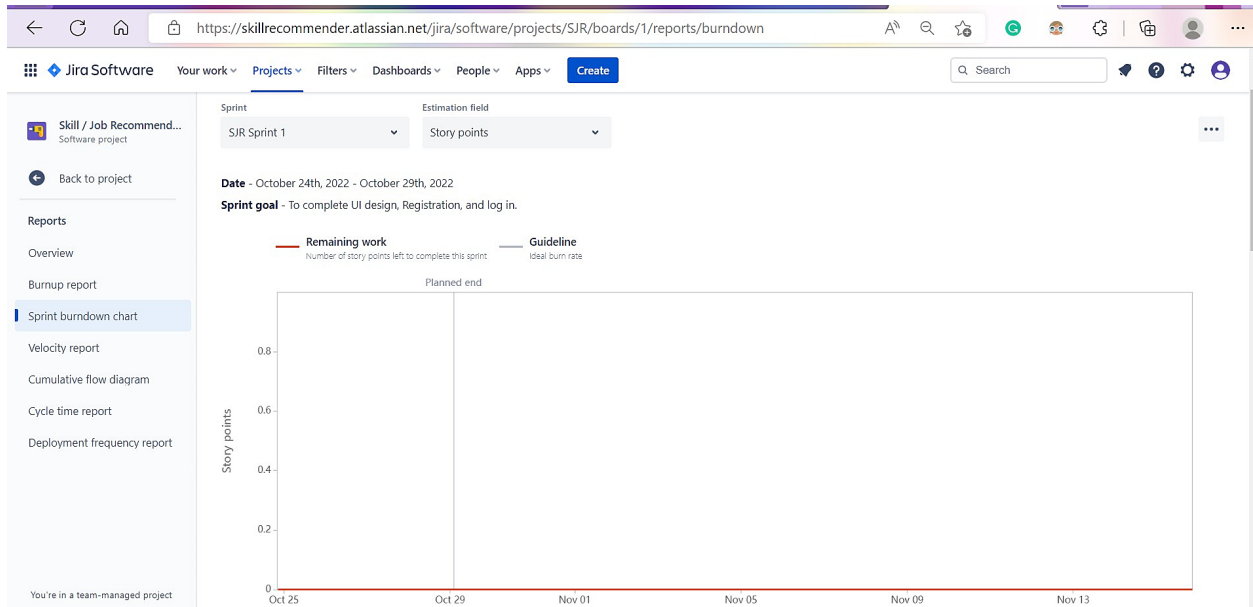
SJR Sprint 4 14 Nov – 19 Nov (2 issues) 0 0 11 Complete sprint []

To get Notification and for the deployment in IBM cloud

- SJR-20 To get Immediate Notification based on the skill **NOTIFICATION** 3 **DONE** []
- SJR-21 Deployment in the IBM cloud **DEPLOYMENT** 8 **DONE** []

+ Create issue

Quickstart []



CHAPTER 7

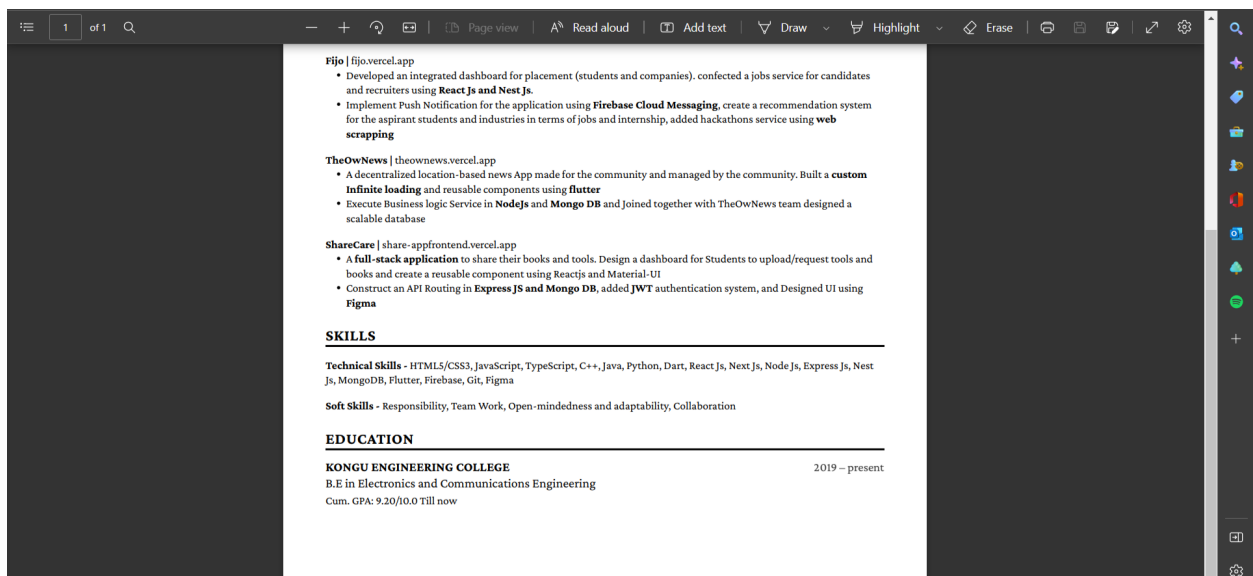
CODING & SOLUTIONING

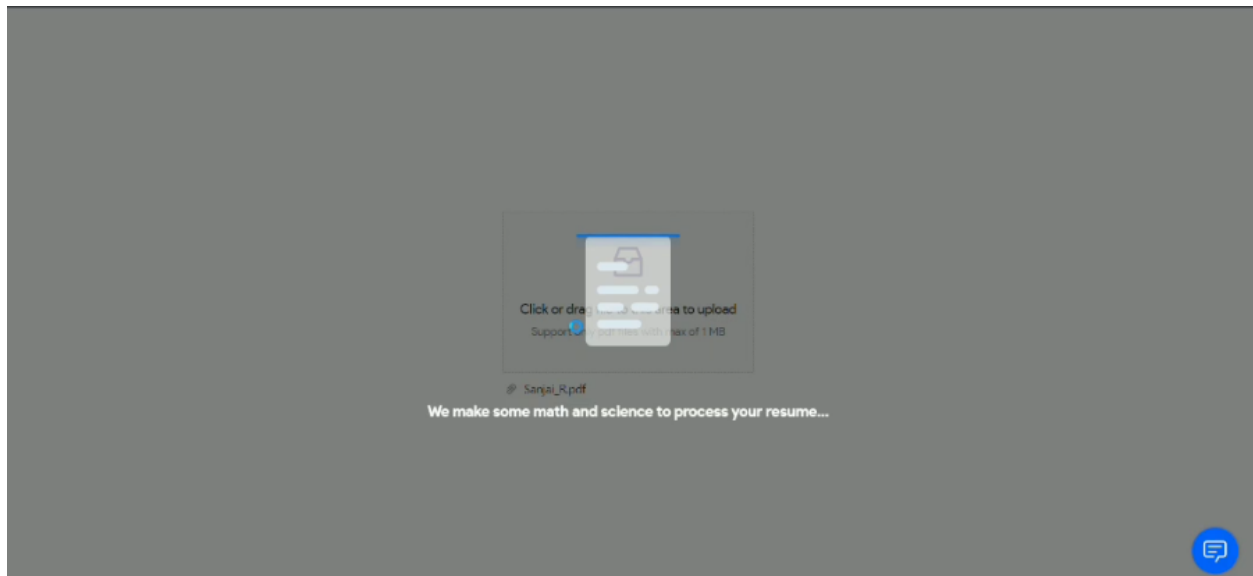
7.1 FEATURE 1

Resume parsing:

There are many online services that offer resume parsing. Some popular services include Indeed, Hired and ZipRecruiter. You can use these services to parse your resume and generate a list of relevant jobs. The resume parser will extract the relevant information (e.g. your skills, work experience and education) from your resume and then match it against a database of job postings. The matching process results are used to rank the jobs and generate a recommended list of jobs for you

Targeted Resume:





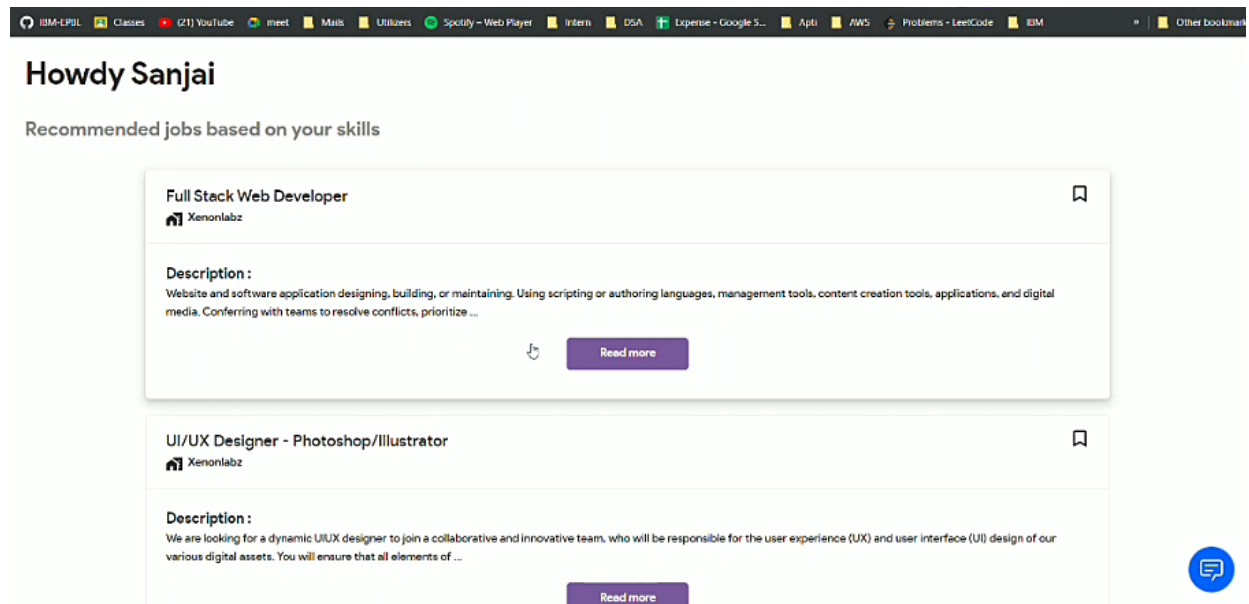
Collected Skills

| Skills | | |
|--------------|----------|--|
| - HTML5/CSS3 | Beginner | |
| JavaScript | Beginner | |
| TypeScript | Beginner | |
| C++ | Beginner | |
| Java | Beginner | |
| Python | Beginner | |
| Dart | Beginner | |
| React Js | Beginner | |
| Next Js | Beginner | |
| Node Js | Beginner | |
| Express Js | Beginner | |

7.2 FEATURE 2

Recommendation System:

A Recommendation System For Students Is An Online Tool That Helps College Professors Or Employers Identify And Recommend Potential Employees. The Tool Can Be Used To Compile A List Of Students Who Have Worked Or Studied With The User, And Provides Detailed Profiles Of Those Students. Students Can Use A Recommendation System To Build Their Resume And Highlight Their Strengths To Potential Employers



7.3 DATABASE SCHEMA

CORPORATES TABLE

| FIELD | TYPE |
|-----------------|---------|
| E-MAIL | VARCHAR |
| PASSWORD | VARCHAR |
| COMPANY NAME | VARCHAR |
| COMPANY WEBSITE | VARCHAR |
| EMPLOYEES | VARCHAR |
| MOBILE NUMBER | VARCHAR |

JOBS TABLE

| FIELD | TYPE |
|--------------------|---------|
| TITLE | |
| DESCRIPTION | VARCHAR |
| SALARY | VARCHAR |
| REQUIRED SKILLS | ARRAY |
| APPLIED CANDIDATES | ARRAY |
| IS_CLOSED | VARCHAR |

QUIZ TABLE

| FIELD | TYPE |
|----------|---------|
| TYPE | VARCHAR |
| TOPIC | VARCHAR |
| QUESTION | VARCHAR |
| OPTIONS | ARRAY |

SKILLS TABLE

| FIELD | TYPE |
|---------------|---------|
| E-MAIL | VARCHAR |
| PASSWORD | VARCHAR |
| EDUCATION | ARRAY |
| MOBILE NUMBER | ARRAY |

TESTING

8.1 TEST CASES

| | | | Date 11-Nov-22 | | Item ID PN120221MRQ4674 | | Project Name Mail - jobs Recommendation | | Maximum Marks 4 marks | | | | | |
|------------------|--------------|------------|--|--------------|---|---|--|---------------------|--------------------------|------------------------------|------------------------|--------|------------------------|--|
| Test case ID | Feature Type | Component | Test Scenario | Pre-Requlite | Steps to Execute | Test Data | Expected Result | Actual Result | Status | Comments | TC for Automation(Y/N) | Bug ID | Executed By | |
| LoginPage_TC_001 | Functional | Home Page | Verify user is able to see the Login/Signup page | | 1.Enter URL and click go 2.Verify login/Signup displayed or not | https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/ | login/Signup page should display | Working as expected | Pass | Initial Load is very less | | | Rahul Tamil Selvan B A | |
| LoginPage_TC_002 | UI | Home Page | Verify the UI elements in Login/Signup | | 1.Enter URL and click go 2.Verify login/Signup with below UI elements a.email text box b.password text box c.Login button d.Last password? Forgot password link | https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/ | Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery password link | Working as expected | pass | user friendly and attractive | | | Sahara V | |
| LoginPage_TC_003 | Functional | Home page | Verify user is able to log into application with Valid credentials | | 1.Enter URL(https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/) and click go 2.Enter Valid username/email in Email text box 3.Enter valid password in password text box 5.Click on login button | Username: ragul.rajkumar27@gmail.com password: ragul | User should navigate to user account Dashboard | | pass | Components are routed | | | Nirmal Raj S | |
| LoginPage_TC_004 | Functional | Login page | Verify user is able to log into application with Invalid credentials | | 1.Enter URL(https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/) and click go 2.Enter Valid username/email in Email text box 3.Enter valid password in password text box 5.Click on login button | Username: ragul.rajkumar27@gmail.com password: ragul | Application should show "Incorrect email or password" validation message | | pass | Components are routed | | | Rahul Tamil Selvan B A | |
| LoginPage_TC_004 | Functional | Login page | Verify user is able to log into application with Invalid credentials | | 1.Enter URL(https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/) and click go 2.Enter Valid username/email in Email text box 3.Enter valid password in password text box 5.Click on login button | Username: ragul.rajkumar27@gmail.com password: ragul | Application should show "Incorrect email or password" validation message | | pass | Its comfortable to use | | | Sahara V | |

| Test case ID | Feature Type | Component | Test Scenario | Pre-Requlite | Steps to Execute | Test Data | Expected Result | Actual Result | Status | Comments | TC for Automation(Y/N) | Bug ID | Executed By |
|------------------|--------------|------------|--|--------------|---|---|--|---------------|--------|--|------------------------|--------|--------------|
| LoginPage_TC_005 | Functional | Login page | Verify user is able to log into application with Invalid credentials | | 1.Enter URL(https://cloud-object-storage-3m-co-static-web-hosting-efs-s3-web-jp-1k-cloud-object-storage-aws-us-east-1.amazonaws.com/) and click go 2.Enter Valid username/email in Email text box 3.Enter valid password in password text box 5.Click on login button | Username: ragul.rajkumar27@gmail.com password: ragul | Application should show "Incorrect email or password" validation message | | pass | user friendly and attractive | | | Sanjai R |
| LoginPage_TC_006 | Functional | Dashboard | Get Recommended Jobs and skills | | 1.After Signup 2.Add Resume 3.View Recommended jobs and skills | After signup add resume of jobs seeker get recommended jobs | View Recommended jobs and skills | | pass | Recommendation system(jobs and skills) solves the problem of finding a job that matches their skill. | | | Nirmal Raj S |
| Jobs Page | Functional | JobsPage | Get jobs based on search for companies and location | | Enter a search keyword in search bar | Enter Company name and location | Get Jobs based on search | | | Easy to search | | | Sanjai R |

8.2 USER ACCEPTANCE TESTING

Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

| Resolution | Severity 1 | Severity 2 | Severity 3 | Severity 4 | Subtotal |
|----------------|------------|------------|------------|------------|----------|
| By Design | 10 | 5 | 2 | 3 | 20 |
| Duplicate | 1 | 0 | 3 | 0 | 4 |
| External | 2 | 3 | 0 | 1 | 6 |
| Fixed | 11 | 2 | 4 | 20 | 37 |
| Not Reproduced | 0 | 0 | 1 | 0 | 1 |
| Skipped | 0 | 0 | 1 | 1 | 2 |
| Won't Fix | 0 | 5 | 2 | 1 | 8 |
| Totals | 24 | 14 | 13 | 26 | 75 |

Test ase Analysis

This report shows the number of test cases that have passed, failed, and untested

| Section | Total Cases | Not Tested | Fail | Pass |
|---------------------|-------------|------------|------|------|
| Print Engine | 7 | 0 | 0 | 7 |
| Client Application | 29 | 0 | 0 | 29 |
| Security | 4 | 0 | 0 | 4 |
| Outsource Shipping | 6 | 1 | 0 | 5 |
| Exception Reporting | 7 | 0 | 0 | 7 |
| Final Report Output | 4 | 0 | 0 | 4 |
| Version Control | 8 | 0 | 0 | 8 |

CHAPTER 9

RESULTS

9.1 PERFORMANCE METRICS

| Statistics | Charts | Failures | Exceptions | Current ratio | Download Data | | | | | | | |
|------------|------------|------------|------------|---------------|---------------|-------------|--------------|----------|----------|----------------------|-------------|--------------------|
| Type | Name | # Requests | # Fails | Median (ms) | 90%ile (ms) | 99%ile (ms) | Average (ms) | Min (ms) | Max (ms) | Average size (bytes) | Current RPS | Current Failures/s |
| GET | /jobs | 69 | 0 | 36 | 100 | 610 | 82 | 32 | 606 | 1373 | 0.9 | 0 |
| GET | /login | 107 | 0 | 37 | 600 | 610 | 124 | 32 | 725 | 1373 | 1.6 | 0 |
| | Aggregated | 176 | 0 | 36 | 590 | 610 | 107 | 32 | 725 | 1373 | 2.5 | 0 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | |
|---|------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|--------|--------|------|---|--|
| 1 | Type | Name | Request C | Failure C | Median Re | Average R | Min Respo | Max Respc | Average C | Requests/s | Failures/s | 50% | 66% | 75% | 80% | 90% | 95% | 98% | 99% | 99.90% | 99.99% | 100% | | |
| 2 | GET | /jobs | 69 | 0 | 36 | 82.0898 | 32.4668 | 606.0171 | 1373 | 1.104095 | 0 | 36 | 38 | 41 | 47 | 100 | 590 | 600 | 610 | 610 | 610 | 610 | | |
| 3 | GET | /login | 107 | 0 | 37 | 123.6231 | 32.4308 | 725.3476 | 1373 | 1.712147 | 0 | 37 | 40 | 44 | 47 | 600 | 600 | 610 | 610 | 730 | 730 | 730 | | |
| 4 | | Aggregates | 176 | 0 | 36 | 107.3401 | 32.4308 | 725.3476 | 1373 | 2.816241 | 0 | 37 | 39 | 42 | 47 | 590 | 600 | 610 | 610 | 730 | 730 | 730 | | |

The image shows a Visual Studio Code editor interface. The top bar displays the file name 'app.py - IBM-Project-17512-1659672749 - Visual Studio Code'. The left sidebar contains the Explorer view, showing a project structure for 'IBM-PROJECT-17512-1659672749'. The main editor area displays the code for 'app.py', which includes a 'MainClassTest' class with methods for 'JobsPage' and 'LoginPage'. The bottom panel shows the Terminal view, which contains the output of a 'locust -f app.py' command, indicating that the web interface is starting and that 20 users are spawned.

EXPLORER

- OPEN EDITORS
 - app.py: Final Deliverables/IBM-Fron...
- IBM-PROJECT-17512-1659672749
 - Assignment
 - Deployment of App in IBM Cloud
 - Developing a Chatbot
 - Final Deliverables
 - backend
 - IBM-Frontend
 - __pycache__
 - .vscode
 - build
 - node_modules
 - public
 - src
 - .gitignore
 - .prettierrc
 - app.py
 - package.json
 - README.md
 - tsconfig.json
 - yarn.lock
 - Implementing Web application
 - Integrating Sendgrid Service
 - Project Design and planning
 - Project Development Phase
 - Setting Up Application Environ...
 - README.md
- OUTLINE
- TIMELINE

app.py

```
Final Deliverables > IBM-Frontend > app.py > MainClassTest
You, 3 minutes ago | 1 author (You)
1 import time
2 from locust import HttpUser, TaskSet, task, between
3
4
5 You, 3 minutes ago | 1 author (You)
6 class MainClassTest(HttpUser):
7     @task
8     def JobsPage(self):
9         self.client.get('/jobs')
10
11     @task(2)
12     def LoginPage(self):
13         self.client.get('/login')
14
15 wait_time = between(5, 10)
You, 3 minutes ago * Testing added ...
```

TERMINAL

```
PS D:\Projects\IBM\IBM-Project-17512-1659672749\Final Deliverables\IBM-Frontend> locust -f app.py
[2022-11-19 18:33:38,271] Sanjai/INFO/locust.main: Starting web interface at http://0.0.0.0:8089 (accepting connections from all netw
ork interfaces)
[2022-11-19 18:33:38,293] Sanjai/INFO/locust.main: Starting Locust 2.13.0
[2022-11-19 18:33:48,765] Sanjai/INFO/locust.runners: Ramping to 20 users at a rate of 20.00 per second
[2022-11-19 18:33:48,769] Sanjai/INFO/locust.runners: All users spawned: ("MainClassTest": 20) (20 total users)
```

CHAPTER 10

ADVANTAGES & DISADVANTAGES

There are many advantages to job and skill recommendation. First, it can help you find a new job or skill set that is a good match for your skills and interests. Second, it helps you improve your skills by taking courses that interest you or practicing your skills in your current job. Third, it allows you to improve your work-life balance by giving you better opportunities to advance your career or find new employment without leaving your current job. Finally, it can help you learn a new skill that can help you in your career. However, there are also some disadvantages to job and skill recommendations. It's no secret that the internet has revolutionized how we search for information. With so many sources of information at our fingertips, it's no wonder that some people believe that all knowledge is available at the touch of a button. However, it's often the case that the most accurate information available doesn't show up at the top of Google's search results. This presents several disadvantages when it comes to searching for a job. Here are a few of the main drawbacks of using online job listings to help you land your next position: First of all, the jobs that you find using online job listings are often quite outdated. This means that you could be applying for a job that is no longer available or could soon be phased out of the company altogether. Sometimes the jobs that are available through online listings don't accurately reflect the current state of the industry, which can lead to a lot of wasted time and frustration on your part.

CHAPTER 11

CONCLUSION

The portal thus developed will improve the user's chances of getting a job in an efficient manner and ease out the work of searching job that matches with their skill. This portal will thus help unemployed candidates find the perfect job role and will also improve their skills. It will also enable user to network with other people and professional organizations in your industry. This is a great way to stay up to date with the latest developments, and to share information with others in your field.

CHAPTER 12

FUTURE SCOPE

The role of job portals in the hiring process is becoming increasingly important as businesses strive to find new talent quickly and efficiently. With advancements in artificial intelligence (AI), job portals may soon become the go-to source for employers looking to fill vacancies and job seekers looking for their next opportunity. For job seekers, AI-powered job portals will give them the power to seek out better opportunities based on their unique skills, qualifications, and preferences. Employers, on the other hand, will be able to use AI and machine learning to automate much of the recruitment process, reducing their costs and making it easier for them to find the right talent for their organisation. The emergence of AI in the recruitment process is good news for both employers and job seekers alike. By helping to simplify and improve the recruitment process, AI will enable businesses of all sizes to attract and retain top talent without having to spend a fortune on expensive recruitment agencies or advertising costs. As the adoption of AI technology continues to grow across the workplace, we expect to see more companies using it to improve their recruiting strategies in the coming years.

CHAPTER 13

APPENDIX

Source Code:

GITHUB LINK - <https://github.com/IBM-EPBL/IBM-Project-17512-1659672749>

LIVE URL - <https://cloud-object-storage-bx-cos-static-web-hosting-ofo.s3-web.jp-tok.cloud-object-storage.appdomain.cloud/>

DEMO VIDEO - <https://www.youtube.com/watch?v=L00KQYMTIQs>