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PROJECT REPORT

SKILL JOB RECOMMENDER APPLICATION

1. INTRODUCTION

Nowadays, job search is a task commonly done on the Internet using job search engine sites like Linked In, Indeed, and others. Commonly, a job seeker

has two ways to search a job using these sites: 1) doing a query based on keywords related to the job vacancy that he/she is looking for, or 2) creating and/or updating a professional profile containing data related to his/her education, professional experience, professional skills and other, and receive personalized job recommendations based on this data. Sites providing support to the former case are more popular and have a simpler structure; however, their recommendations are less accurate than those of the sites using profile data. Personalized job recommendation sites implemented a variety of types of recommender systems, such as content-based filtering, collaborative filtering, knowledge-based and hybrid approaches.

Based on the person-job fit premise, we propose a framework for job recommendation based on professional skills of job seekers. We automatically extracted the skills from the job seeker profiles using a variety of text processing techniques. Therefore, we perform the job recommendation using TF-IDF and four different configurations of Word2vec over a dataset of job seeker profiles and job vacancies collected by us. Our experimental results show the performances of the evaluated methods and configurations and can be used as a guide to choose the most suitable method and configuration for job recommendation.

1.1 PROJECT OVERVIEW

These are the systems that help us to select out similar things whenever we select something online. The concept of understanding a user's preference by their online behaviour, previous purchases, or history in the system is called a recommender system. The need for a recommender system has grown from time to time. At First, Entertainment industries exploited the benefits of these systems. Then recommender systems were implemented in e-shopping businesses, online news, but very few companies have tried implementing it in the hiring process.

1.2 PURPOSE

• Solve complex problems in a way that fits the state of your customers. q Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behaviour.

- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problembehaviour fit and building trust by solving frequent annoyances, or urgent or costly problems.
- Understand the existing situation in order to improve it for your target group.

2. LITERATURE SURVEY

2.1 Existing problem

[1] A lot of research has been carried out large variety of job recommendation systems already exist that try to provide one or the other aspect of the information by applying different methods. The key problem is that most of jobs hunting websites just provides recruitment information to website viewers. Students have to retrieve information among those displayed by websites to find jobs they want to apply. The whole procedure is lengthy and inefficient. In addition, many ecommerce websites, uses collaborative filtering algorithm without considering user's resume and item's properties. W. Hong et al. developed HR an online job recommendation system that classifies users into groups by using historical behaviour of users and individual information and then uses the appropriate recommendation approach for each group of users.

[2] In skill and job recommendation, the recommender systems techniques can be used to address the problem of information overload by prioritize the delivery of information for individual users based on their learned preferences (Lee and Brusilovsky, 2007). Additionally, the success of personalization technologies depends critically on the existence of comprehensive user profiles that precisely capture users" interests (Rafter and Smyth, 2001) and the perfect matching method. Moreover, the recommender systems could use historical rating information to determine which type of job required which type of candidate characteristics in the past in order to be rated positively by the recruiter. This information could then be used to predict the match between job and previously not rated candidates

- [3] For job recommendation system, the internet-based recruiting platforms decrease the recruitment time and advertisement cost, they suffer from an inappropriateness of traditional information retrieval techniques like the Boolean search methods. Consequently, a vast amount of candidates miss the opportunity of recruiting. In order to improve the e-recruiting functionality, the recommender system has been enhanced for building personalized recommender systems for candidates and job matching. The fast growth of the internet caused a matching growth of the amount of available online information that increased the need to expand the ability of users to manage all this information. Recommender systems are being broadly accepted in various application to suggest products, services and information items to latent customers.
- [4] Research done in the job recommender system (JRS) literature from several perspectives these include the influence of data science competitions, the effect of data availability on the choice of method and validation, and ethical considerations in job recommender systems. Furthermore, we branched the large class of hybrid recommender systems to obtain a better view on how these hybrid recommender systems differ. Both this multi-perspective view, and the new taxonomy of hybrid job recommender systems has not been discussed by previous reviews on job recommender systems.

2.2 References

- [1] Job Recommendation System Using Profile Matching And Web-Crawling Deepali V Musale , Mamta K Nagpure, Kaumudini S Patil , Rukhsar F Sayyed4 Students, Computer Science & Engineering, K K Wagh College of Engineering, Nashik, India
- [2] Sequence Recommendations Jie Xu, Member, IEEE, Tianwei Xing, Student Member, IEEE, and Mihaela van der Schaar, Fellow, IEEE.
- [3] Job recommendation Jorge Valverde-Rebaza Ricardo Puma Paul Bustios Nathalia C. Silva Department of Scienti_c Research, Visibilia, CEP 13560-647, S~ao Carlos, SP, Brazil fjvalverr, rpuma, pbustios, ncsilvag@visibilia.net.br

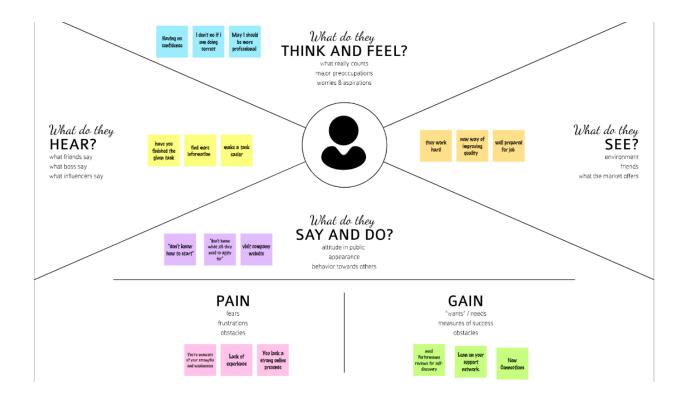
[4] yi-chi chou and han-yen yu. based on the application of ai technology in resume analysis and job recommendation. in 2020 ieee international conference on computational electromagnetics (iccem), pages 291–296. ieee, 2020

2.3 Problem Statement

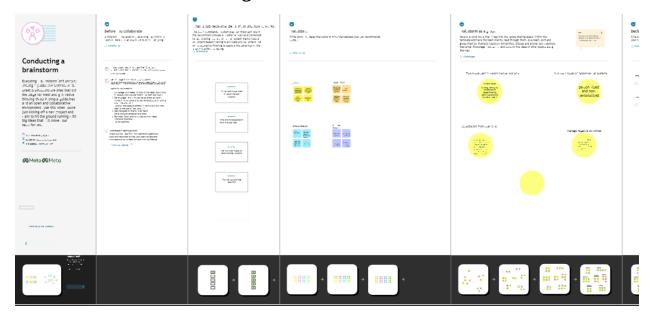
Dealing with the enormous amount of recruiting information on the Internet, a job seeker always spends hours to find useful ones. Many times, people who lack industry knowledge are unclear about what exactly they need to learn in order to get a suitable job for them. We address the problem of recommending suitable jobs to people who are seeking a new job. We formulate this recommendation problem as a supervised machine learning problem.

3. IDEATION & PROPOSED SOLUTIONS

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming



3.3 Proposed Solution

S. No.	Parameter	Description

1. Having lots of skills but Problem Statement wondering which job will (Problem to besolved) best suit you? Don't need to worry! We have come up with a skill recommender solution through which thefresher or the skilled person can log in and find the jobs by using the search option or they can directly interact with the chatbot and get theirdream 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 theDatabase. An alert is sentwhen there is an opening based on the userskillset. Users will interact with the chatbot and canget 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.

2.		
2.	Idea / Solution description	The contributions of this work are threefold, we: i) made publicly available a new datasetformed by a set of job seekersprofiles and aset of job vacancies collected from different job search engine sites ii) put forward the proposal of a framework for job recommendation based on professional skills of job seekers iii) carried out an evaluation to quantify recommendation abilities of two state-of-the art methods, considering different configurations, within the proposed framework. We thus present ageneral panorama of job recommendation task aiming to facilitate research and real- world application design regarding this important issue.
3.	Novelty / Uniqueness	The best position are suggested to any
		person according to her skills. While theposition of known profiles are assumed

		should be noted that there are usually multiple advisable positions correspondingto a set of skills. A recommendation system should return a set of most likely positions and all of them can be equally valid. The recommendation method we use is simply based on representing both positions and profiles as comparable vectors and seeking foreach profile the positions withthe most similar vectors.
4.	Social Impact / Customer Satisfaction	Students willbe benefited as they will getto know which job suits them based on theirskill set and therefore Lack of Unemploym ent can be reduced.
5.	Business Model(Revenue Model)	We can provide the application for job seekers in a subscription based and we can share the profiles with companies and generate the revenue by providing them bestprofiles.

6.	Data can be scaled up and scaled downaccording to number of current job openings available.
	3

3.4 Problem Solution Fit

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why?

Define CS,fit into CC	1.CUSTOMER SEGMENTS 1) Jobless people 2) New college grads	6.CUSTOMER CONSTRAINTS For the website to operate as intended, basic needs such an internet connection and laptop are required.	5.AVAILABLE SOLUTIONS Earlier, job seekers used TV adverts and paper columns, as a result of the expanding digital world, the use of suggestion websites.	Explore AS, differentiate
focus on J&P,tab into BE,	2.JOBS-TO-BE-DONE/PROBLEM Make some work recommender site with an inbuilt chatbot help	9.PROBLEM ROOT CAUSE The vast majority don't know about their positions accessible in the market/sites	7.BEHAVIOURS The users attempt to first analyse job searches on websites, papers, and adverts depending on their requirements.	focus on J&P,tap into BI
Identify strong TR&EM	3.TRIGGERS Seeing other find a new line of work 4.EMOTIONS:BEFORE/AFTER User will be satisfied with the services and higher possibility of job offer	10.YOUR SOLUTION To build a platform that helps freshersand under graduates to get a job	8.CHANNELS OF BEHAVIOUR ONLINE: Ready to explore a suitable job based on their skill sets and necessities OFFLINE: Attend interviews on-siteand try and get a job	E Identity strong TR&EM

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

S No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
1	User Registration	Registration with username and user password
2	User Confirmation	Confirmation of user Email/phone number Confirmation via OTP
3	Chat Bot	A Chat Bot will be there in website to solve user queries and problems related to applying a job, search for a job and much more.
4	Job profile display	Display job profiles based on skills ,availability etc
5	User Search	Exploration of Jobs based on job filters and skill recommendations.
6	Job registration	A copy of the company the user applied for with its registration details will be sent to registered email id
7	User Acceptance	Confirmation of the Job.

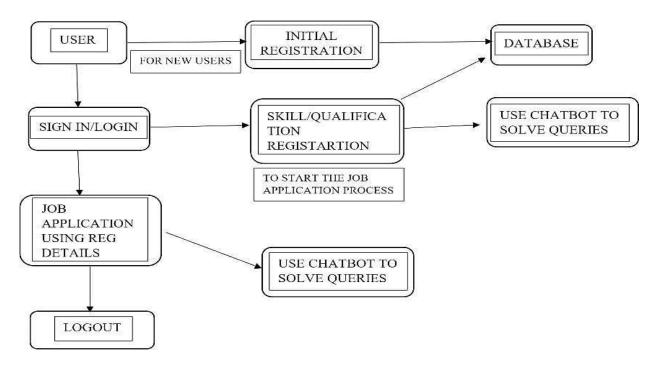
4.2 Non Functional Requirement

S	Non-Functional	Description
No.	Requirement	

1	Usability	This application can be used by the
		job seekers to login and searchfor the
		job based on her Skills set.
2	Security	This application is secure with separate
		login for JobSeekers as well as Job
		Recruiters.
3	Reliability	This application is open-source and
		feels free to use, without need to pay
		anything. To make sure the
		webpage doesn'tgo down due to
		network traffic
4	Performance	The performance of this application
		is quickerresponse and takes lesser
		time to do any process.
5	Availability	This webpagewill be available to all
		users at anygiven point
6	Scalability	The Response time of the application
		is quite faster compared to any other
		application.

5. PROJECT DESIGN

5.1 Data Flow Diagrams



5.2 Solutions & Technical Architecture

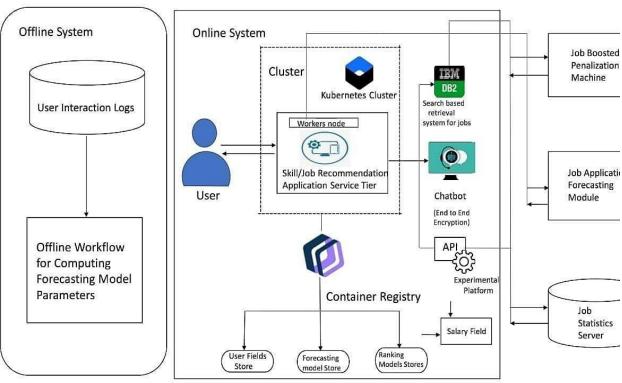


Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. WebUI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js /React Js etc.
2.	Developing Interface	Developing application for the task	Java / Python
3.	Voice Assistance	Voice commands instead of typing.	IBM Watson STT service
4.	Chatbot Assistance	Conversational Interface •	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM <u>Cloudant</u> etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other StorageService or Local Filesystem
8.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Open-Source	List the open-source	Technology of Opensource
	Frameworks	frameworks used	framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Artificial Intelligence (AI)
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	RAID(redundant array of independent disks)

5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through G mail	I can receive confirmation email & click confirm	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access my account / dashboard	High	Sprint-1
	Dashboard	USN-6	Create a model set that contains those models, then assign it to a role.	Assign that group to the appropriate roles on the Roles page	High	Sprint-1
Customer (Web user)	Identity-Aware	USN-7	Open, public access, User-authenticated access, Employee-restricted access.	Company public website. App running on the company intranet. App with access to customer private information.	High	Sprint-1
Customer Care Executive	Communication	USN-8	A customer care executive is a professional responsible for communicating the how's and why's regarding service expectations within a company.	For how to tackle customer queries.	Medium	Sprint-1
Administrator	Device management	USN-9	You can Delete/Disable/Enable devices in Azure Active Directory but you cannot Add/Remove Users in the directory.	Ease of use.	Medium	Sprint-1

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Scheduling

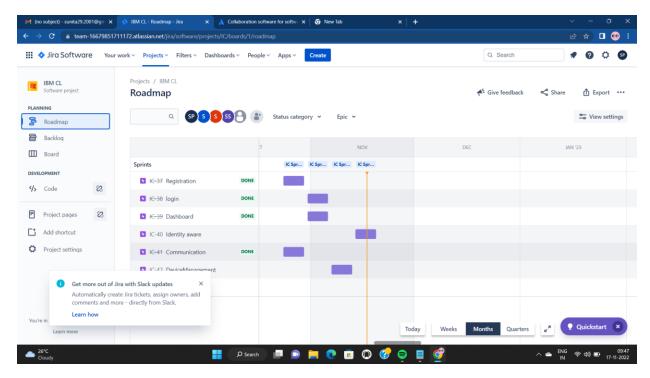
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	18	06 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	11 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	19	19 Nov 2022

6.2 Sprints Design Schedule

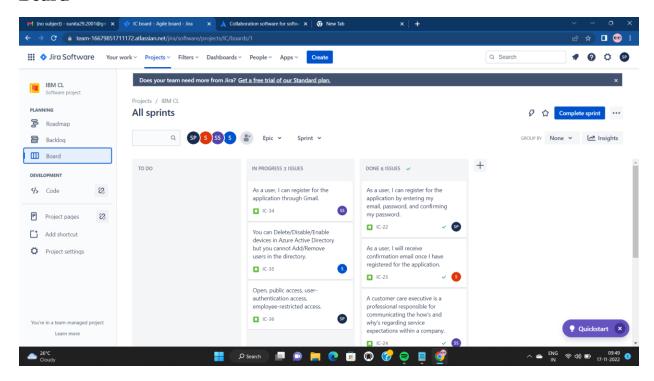
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sunita Swetha Malya
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sri sowndharya Yogasridevi
Sprint-2		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sunita Swetha Malya
Sprint-3		USN-4	As a user, I can register for the application through Gmail	I can receive confirmation email & click confirm	Medium	Sri sowndharya Yogasridevi
Sprint-2	Login	USN-5	As a user, I can log into the application by entering email & password	I can access my account / dashboard	High	Sri sowndharya Swetha Malya
Sprint-2	Dashboard	USN-6	Create a model set that contains those models, then assign it to a role.	Assign that group to the appropriate roles on the Roles page	High	Yogasridevi Sunita
Sprint-4	Identity-Aware	USN-7	Open, public access, User- authenticated access, Employee- restricted access.	Company public website. App running on the company intranet. App with access to customer private information.	High	Swetha Malya Sunita
Sprint-1	Communication	USN-8	A customer care executive is a professional responsible for communicating the how's and why's regarding service expectations within a company.	For how to tackle customer queries.	Medium	Sri sowndharya Yogasridevi

6.3 Reports from JIRA

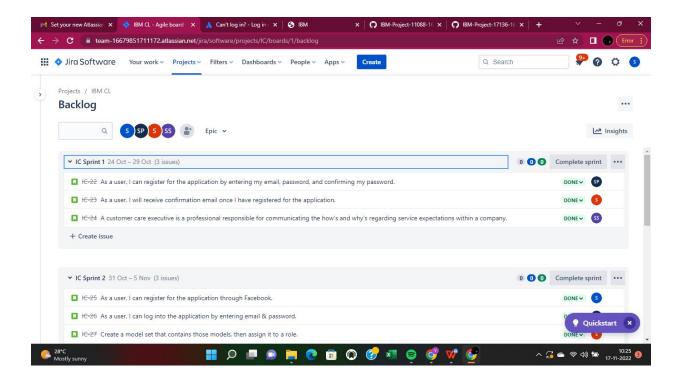
Roadmap

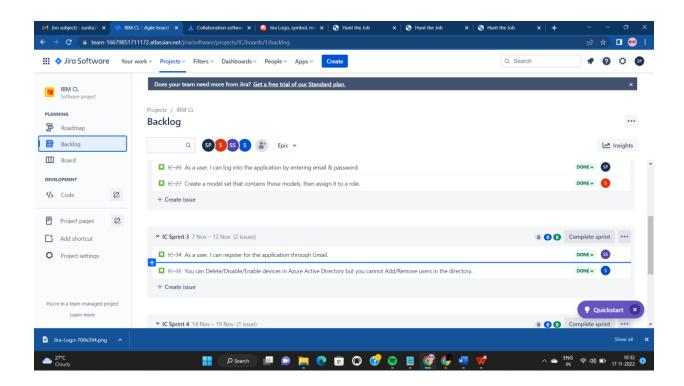


Board



Backlogs





7. CODING AND SOLUTIONING

Feature 1:

App Market

This is one of the feature of our application Skill Pal which provides companies job details for end users

```
<!-- Job Detail Start -->
     <div class="container-xxl py-5 wow fadeInUp" data-wow-delay="0.1s">
       <div class="container">
          <div class="row gy-5 gx-4">
            <div class="col-lg-8">
               <div class="d-flex align-items-center mb-5">
                 <img class="flex-shrink-0 img-fluid border rounded"
src="static/img/com-logo-2.jpg" alt="" style="width: 80px; height: 80px;">
                 <div class="text-start ps-4">
                   <h3 class="mb-3">Marketing Manager</h3>
                   <span class="text-truncate me-3"><i class="fa fa-map-</pre>
marker-alt text-primary me-2"></i>New York, USA</span>
                   <span class="text-truncate me-3"><i class="far fa-clock text-</pre>
primary me-2"></i>Full Time</span>
                   <span class="text-truncate me-0"><i class="far fa-money-bill-</pre>
alt text-primary me-2"></i>$123 - $456</span>
                 </div>
               </div>
        <div class="mb-5">
                 <h4 class="mb-3">Job description</h4>
```

Marketing managers play a crucial role in helping a business to promote and sell its products to its customers. They can lead and influence the way a brand

looks and feels in the market and marketing manager duties can cover the entire spectrum of how a company communicates. Discover expert tips on how to succeed as a marketing manager and what it takes to progress your career in this fast-paced industry.

<h4 class="mb-3">Responsibility</h4>

Marketing Managers are responsible for developing, implementing and executing strategic marketing plans for an entire organization (or lines of business and brands within an organization) in order to attract potential customers and retain existing ones.

<i class="fa fa-angle-right text-primary me-2"></i>Demonstrable experience in marketing together with the potential and attitude required

<i class="fa fa-angle-right text-primary me-2"></i>Solid knowledge of website analytics tools

<i class="fa fa-angle-right text-primary me2"></i>Experience in setting up and optimizing Google Adwords campaigns

<i class="fa fa-angle-right text-primary me-2"></i>
comfortable working with numbers

<i class="fa fa-angle-right text-primary me-2"></i>A
sense of aesthetics and a love for great copy and witty communication

<h4 class="mb-3">Qualifications</h4>

<i class="fa fa-angle-right text-primary me2"></i>Demonstrable experience in marketing together with the potential and attitude required

<i class="fa fa-angle-right text-primary me-2"></i>Solid knowledge of website analytics tools

```
<i class="fa fa-angle-right text-primary me-
2"></i>Experience in setting up and optimizing Google Adwords campaigns
                  <i class="fa fa-angle-right text-primary me-2"></i>
comfortable working with numbers
                  <i class="fa fa-angle-right text-primary me-2"></i>A
sense of aesthetics and a love for great copy and witty communication
                </11]>
              </div>
    <div class="">
                <h4 class="mb-4">Apply For The Job</h4>
<form>
                  <div class="row g-3">
                     <div class="col-12 col-sm-6">
                       <input type="text" class="form-control"
placeholder="Your Name">
                     </div>
                     <div class="col-12 col-sm-6">
                       <input type="email" class="form-control"
placeholder="Your Email">
                     </div>
                     <div class="col-12 col-sm-6">
                       <input type="text" class="form-control"
placeholder="Portfolio Website">
                     </div>
                     <div class="col-12 col-sm-6">
                       <input type="file" class="form-control bg-white">
```

```
</div>
                     <div class="col-12">
                       <textarea class="form-control" rows="5"
placeholder="Coverletter"></textarea>
                     </div>
                    <div class="col-12">
                       <button class="btn btn-primary w-100"</pre>
type="submit">Apply Now</button>
                    </div>
                  </div>
                </form>
              </div>
           </div>
    <div class="col-lg-4">
              <div class="bg-light rounded p-5 mb-4 wow slideInUp" data-wow-</pre>
delay="0.1s">
                <h4 class="mb-4">Job Summery</h4>
                <i class="fa fa-angle-right text-primary me-
2"></i>Published On: 01 Jan, 2045
                <i class="fa fa-angle-right text-primary me-2"></i>Vacancy:
123 Position
                <i class="fa fa-angle-right text-primary me-2"></i>Job
Nature: Full Time
                <i class="fa fa-angle-right text-primary me-2"></i>Salary:
$123 - $456
                <i class="fa fa-angle-right text-primary me-2"></i>Location:
New York, USA
```

```
</div>
</div>
</div>
</div>
</div>
</div>
</div>

Job Detail End -->
```

Feature 2:

ChatBot (using IBM Watson)

This chat bot feature provides help tooltip for end users if any help needed for users

```
<script>
window.watsonAssistantChatOptions = {
  integrationID: "1b609f1c-9212-46da-89f4-f0702a4ecc1f", // The ID of this integration.
```

region: "au-syd", // The region your integration is hosted in.

serviceInstanceID: "df269af8-f13f-4dd2-b0c3-0fdd1264a714", // The ID of your service instance.

```
onLoad: function(instance) { instance.render(); }
};
setTimeout(function(){
   const t=document.createElement('script');
   t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
});
</script>
```

8. TESTING

8.1 Test Cases

We tested for various validations. Tested all the features with using all the functionalities. Tested the data base storage and retrieval feature too. Testing was done in phase 1 and phase 2, where issues found in phase1 were fixed and then tested again in phase 2.

8.2 User Acceptance Testing:

Real world testing was also done, by giving to remote users and asking them to use the application. Their difficulties were fixed and tested again until all the issues were fixed.

1.DefectAnalysis

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

Resolutio n	Severit y 1	Severit y 2	Severit y 3	Severit y 4	Subtotal
By Design	10	4	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	77

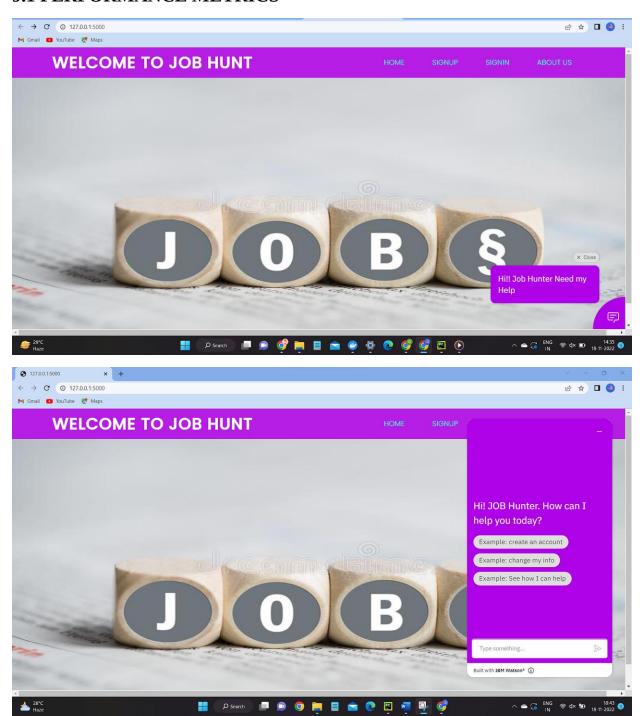
2.Test Case Analysis

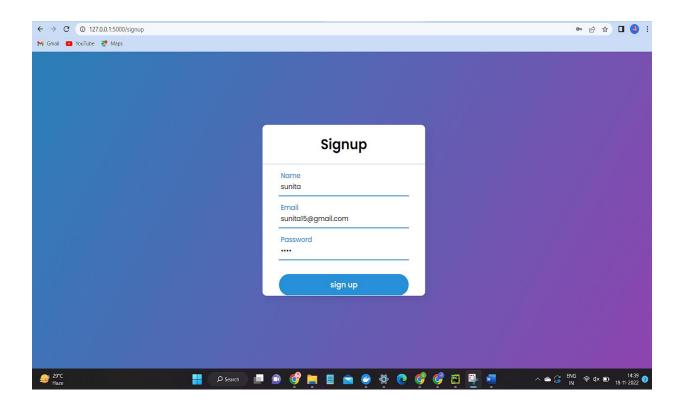
This report shows the number of test cases that have passed, failed, and untested

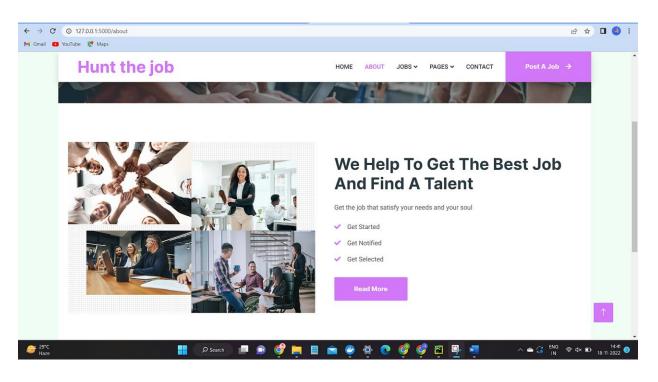
Section	Total Cases	Not Tested	Fai l	Pass
Print Engine	2	0	0	2
Client Application	2	0	0	2
Security	1	0	0	1
Outsource Shipping	1	0	0	1
Exception Reporting	2	0	0	2
Final ReportOutput	1	0	0	1
Version Control	1	0	0	1

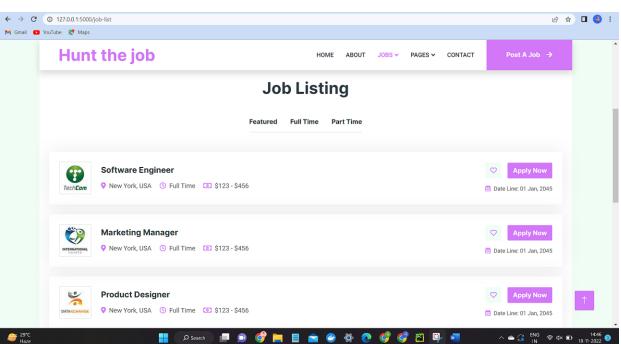
9. RESULTS

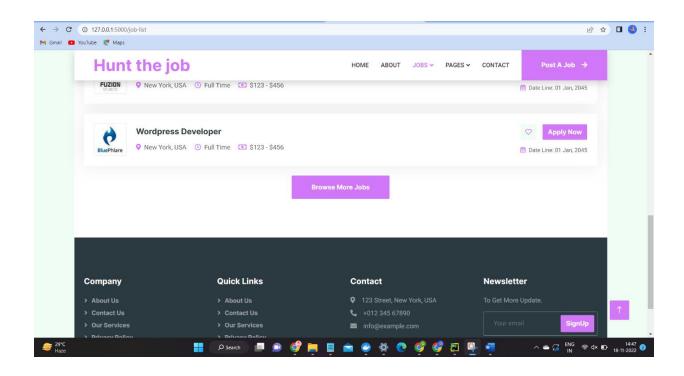
9.1 PERFORMANCE METRICS

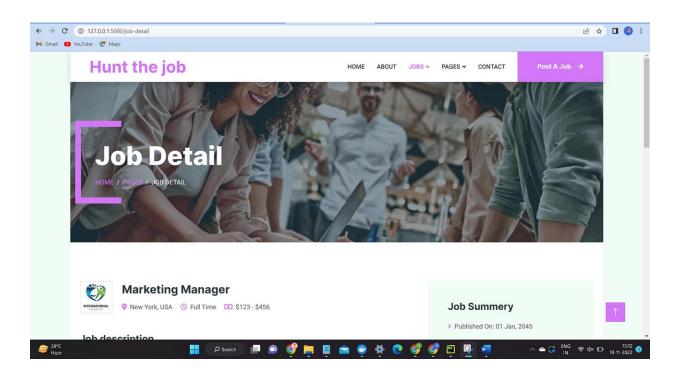


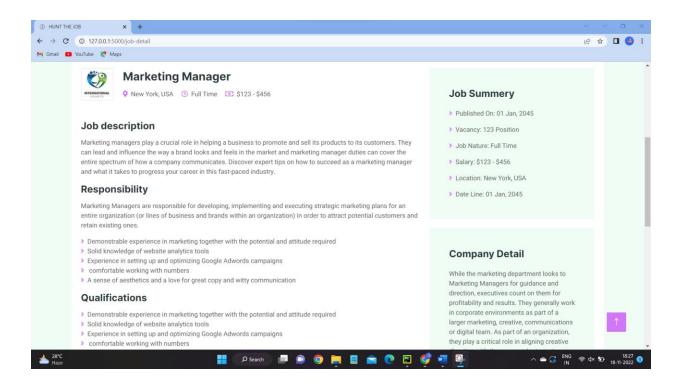


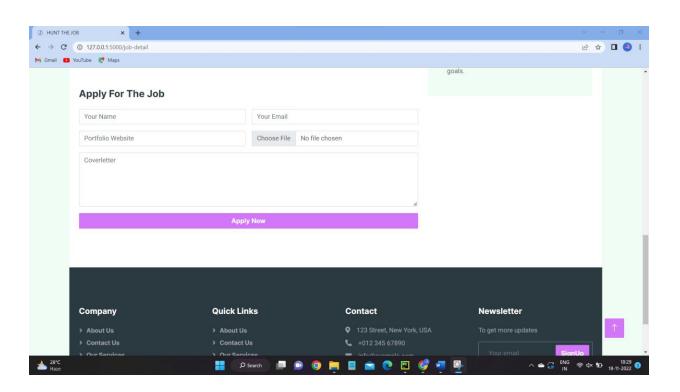


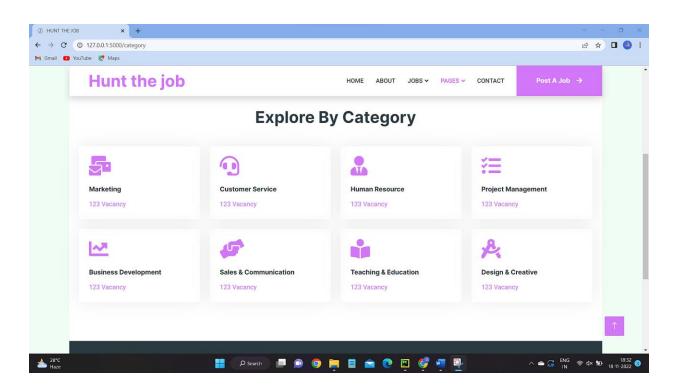


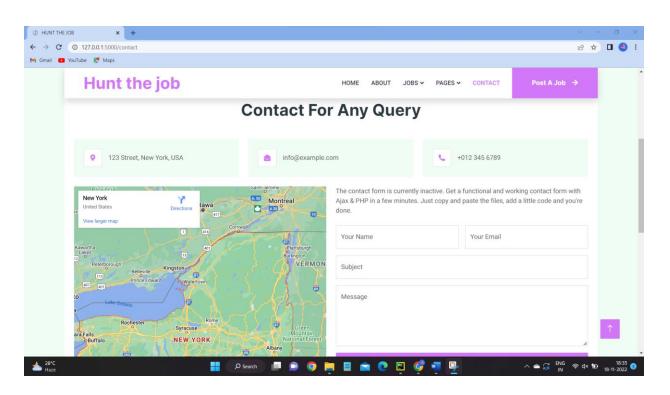


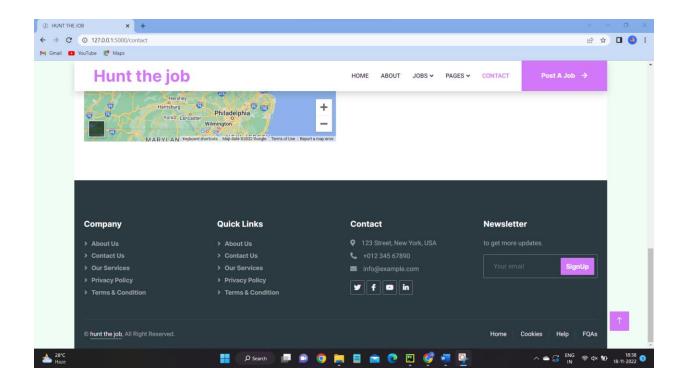












10. ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

- · It helps candidates to search the job which perfectly suites them and make them aware of all the job openings.
- · It help recruiters of the company to choose the right candidates for their organisations with appropriate skills.
- · Since it is cloud application, it does require any installation of softwares and is portable.

DISADVANTAGES:

- · It is costly.
- \cdot Uninterrupted internet connection is required for smooth functioning of application.

11. CONCLUSION

we have used ibm cloud services like db2, cloud registry, kubernetes, Watson assistant to create this application, which will be very usefull for candidates who are searching for job and as well as for the company to select the right candidate for their organization.

12. FUTURE SCOPE

Future directions of our work will focus on performing a more exhaustive evaluation considering a greater amount of methods and data as well as a comprehensive evaluation of the impact of each professional skill of a job seeker on the received job recommendation. We can use machine learning technicques to recommend data in a efficient way.

13. APPENDIX

Source code:

```
from flask import Flask, request, render_template, redirect, url_for
from cloudant.client import Cloudant
#from detect import my_database
client = Cloudant.iam('6c89a0da-d603-41e5-a40b-6af61327e9af-bluemix',
'CiLg1OOKnQVKb0S7KJT-rdxsDAvGezjZw1tOjV2tXuFX', connect =True)
my_database = client.create_database('my_database')

app = Flask(__name__)
@app.route('/')
def index():
    return render_template('home.html')
```

```
@app.route('/home.html')
def home():
  return render_template("home.html")
@app.route('/signup')
def register():
  return render_template('signup.html')
@app.route('/after_signup', methods=['post'])
def after_reg():
  x = [x \text{ for } x \text{ in request.form.values()}]
  print(x)
  data = {
     '_id': x[1],
     'name': x[0],
     'psw': x[2],
}
  print(data)
  query = {'_id': {'$eq': data['_id']}}
  docs = my_database.get_query_result(query)
  print(docs)
print(len(docs.all()))
  if len(docs.all()) == 0:
     url = my_database.create_document(data)
     # response = requests.get(url)
```

```
return render_template('index.html', pred="Registration Successful, please
login using your details")
  else:
     return render_template('index.html', pred="You are already a member, please
login using your details")
@app.route('/signin')
def login():
  return render_template('signin.htmL')
@app.route('/after_signin', methods=['POST'])
def after_login():
  user = request.form['_id']
  passe = request.form['psw']
  print(user, passe)
  query = {'_id': {'$eq': user}}
  docs = my_database.get_query_result(query)
  print(docs)
  print(len(docs.all()))
  if len(docs.all()) == 0:
     return render_template('signin.html', pred="The username is not found.")
  else:
     if user == docs[0][0]['_id'] and passe == docs[0][0]['psw']:
       return render_template('job-list.html')
     else:
       print('Invalid User')
```

```
@app.route('/about1')
def about1():
  return render_template('about1.html')
@app.route('/job-detail')
def jobdetail():
  return render_template('job-detail.htmL')
@app.route('/about')
def about():
  return render_template('about.htmL')
@app.route('/category')
def category():
  return render_template('category.htmL')
@app.route('/contact')
def contact():
  return render_template('contact.htmL')
@app.route('/testimonial')
def testimonial():
  return render_template('testimonial.html')
@app.route('/404')
```

```
def error():
    return render_template('404.html')
if __name__ == "__main__":
    app.run(debug=True)
```

GitHub & Project Demo Link:

https://github.com/IBM-EPBL/IBM-Project-11088-1659260494

Vedio link:

 $\frac{https://drive.google.com/file/d/15Ds9Ll_MXoyed8xgtvrVeR2mbMjg}{81Qr/view}$