

SKILL/JOB RECOMMENDER APPLICATION

A NAALAIYATHIRAN PROJECT REPORT

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CHAPTER 1

INTRODUCTION

1.1. PROJECT OVERVIEW

Having lots of skills but wondering which job will best suit you? Don't need to worry! We have come up with a skill recommender solution through which the fresher 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 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 the recommendations based on their skills. We can use a jobsearch API to get the current job openings in the market which will fetch the data directly from the webpage.

1.2. PURPOSE OF THIS PROJECT

- Students/Job seekers can get the desired job based on their skill set.
- We can share the profiles with companies and generate the revenue by providing them best profiles.
- We can provide the application for job seekers in a subscription based.
- Integrating a Chatbot will helpful for the students to interact with this web application to seek a particular job

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING SOLUTION

- <https://www.hirist.com/login>
- <https://www.linkedin.com>

2.2 REFERENCES

1. “Students / Job seekers find their desired job based on their Skillset”

Reference link: https://www.researchgate.net/publication/272802616_A_survey_of_job_recommender_systems

Description:

The Internet-based recruiting platforms become a primary recruitment channel in most companies. The recommender system technology aims to help users in finding items that match their personnel interests. This article will present a survey of e-recruiting process and existing recommendation approaches for building personalized recommender systems for candidates/job matching.

2. “Integrating Intelligent CHATBOT for Job recommendation application”

Reference link: https://www.researchgate.net/publication/360820692_Intelligent_Chatbot

Description:

A Chatbot is a software application that replaces a live human agent to conduct a conversation via text or text to speech. In this system, we demonstrate a chatbot that uses Artificial Intelligence to produce dynamic responses to online client enquiries. This web-based platform provides a vast intelligent base that can help humans to solve problems. The Chatbot recognizes the user's context, which prompts an intended response. Its objective is to reduce human dependency in every organization and reduce the need for different systems for different processes.

3. “A Study of LinkedIn as an Employment Tool for Job Seeker & Recruiter”

Reference link: [Journal homepage: www.ijrpr.com](http://www.ijrpr.com) ISSN 2582-7421 **Description:**

LinkedIn has become one of the most known social networking portals in terms of global professional connections, networking, job postings, hiring and much more in relevance to employment opportunities.

This research was an attempt to identify the utility of Linked in on selection and recruitment. Also, this study has taken the employers’ and the prospective candidates for job and employees’ perspective, including factors such as recruitment, selection, job opportunities, internal official communication on Linked-in, professional networking, ease of access, less expensive communication tool etc.

4. "Cloud storage and sharing services"

Reference link: <https://www.ijresm.com/>

Description:

To create a web application that sends files from one email to another email using the SMTP protocol, which is handled in a server-based application. The main advantage of the project in this paper is that it provides a safe, reliable, and excellent tool for sharing files in any format. Also, it has infinite scaling capabilities. With a bit of tweak in the code, it can be scaled to handle heavy file loads.

The Cloud-based file sharing approach is proposed to provide the following services for external data confidentiality, secure data sharing within the group, protect data from unauthorized access of officials within the group and provide time and number of file access to users. Whenever information sharing among a bunch arise the file owner sends the user uploads the file on the application and then shares it using the send API. This creates a safe medium of sharing of files and user in control of the data in the whole process of sharing the files.

2.3 . PROBLEM STATEMENT DEFINITION

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. Job recommender technology aims to help job seekers in finding jobs that match their skills. The Internet caused a substantial impact on the recruitment process through the creation of e-recruiting platforms that become a primary recruitment channel in most companies. While companies established job positions on these portals, job-seeker uses them to publish their profiles. E-recruitment platforms accomplished clear advantages for both recruiters and job-seekers by reducing the recruitment time and advertisement cost. Recommender system technology aims to help users in finding items that match their preferences; it has a successful usage in a widerange of applications to deal with problems related to information overload efficiently. In order to improve the e-recruiting functionality, many recommender system approaches have been proposed. This paper will analyze e-recruiting process and related issues for building personalized recommender systems of candidates/job matching.

CHAPTER 3

IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



Reference: <https://www.mural.co/templates/empathy-map-canvas>

3.2. IDEATION

- E-recruitment 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 missed the

opportunity of recruiting. The recommender system technology aims to help user in finding items that match their personnel interests; it has a successful usage in ecommerce applications to deal with problems related to information overload efficiently.

- Job recommendation application with intelligence of chatbot. In this system, we demonstrate a chatbot that uses Artificial Intelligence to produce dynamic responses to online client enquiries. This web-based platform provides a vast intelligent base that can help humans to solve problems. The chatbot recognizes the user's context, which prompts an intended response.

Because this is a dynamic response, the user's desired response will be generated. This also uses a machine-learning algorithm to learn the chatbot by experiencing various requests and responses. Chatbots come to use in numerous fields of our daily life. Because AI enhances the human touch in every communication, chatbot are becoming increasingly robust. It triggers accurate responses after understanding a user's query. Its objective is to reduce human dependency in every organization and reduce the need for different systems for different processes.

- Job seekers struggling to get the desired job for skills they have. we are proposing an application which will help the students to give Suggestions on the jobs based the skills. In this application freshers or skilled person can sign up and find the jobs by using either the search option or they can directly interact with the chatbot and get their dream job. In this application freshers or skilled person can sign up and find the jobs by using either the search option or they can directly interact with the chatbot and get their dream job. 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.

3.3. PROPOSED SOLUTION

S.NO	PARAMETER	DESCRIPTION
1	Problem Statement (Problem to be solved)	Having lots of skills but wondering which job will best suit you? Don't need to worry! We have come up with a skill recommender solution through which the fresher 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 their dream job.
2	Idea / Solution description	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.
3	Novelty / Uniqueness	A chatbot can easily save time and effort. These chatbot communicate with humans in a very natural form to resolve their queries and to assist them as required.

4	Social Impact / Customer Satisfaction	The user allowed to choose the required job as per his/her skill level. It helps user to make right decision to choose their required field job
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5	Business Model (Revenue Model)	We can provide the application in a subscription based. It will help the people to track their expenses and also alerts when you exceed the limit of your budget.
6	Scalability of the Solution	One important application of recommendation system in Job Recruitment; in which candidates are elected by using online job recruitment portal based on their profile and job history and behavior components.

3.4. PROBLEM SOLUTION FIT

Project Title: Skill/Job recommended application

Project Design Phase – 1
Problem Solution Fit

Team Id: PNT2022TMD29859

Define CS, fit into	1. CUSTOMER SEGMENT(S) CS Who is your customer? <div> The main customers for our project are : <ul style="list-style-type: none"> Person who are seeking for employment Person that recruit job candidates </div>	6. CUSTOMER CC What constraints prevent your customers from taking action or limit their choices of solutions? I.e. spending power, budget, no cash, network connection, available devices. <div> <ul style="list-style-type: none"> Concern about misuse of personal information Worry about unreliable connections Potential scam Time consuming Needs understanding to use the application </div>	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? I.e., pen and paper is an alternative to digital notetaking <div> <ul style="list-style-type: none"> Text processing and recommendation method Content-based filtering Collaborative filtering Graph-based filtering </div>	Explore AS,
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. <div> <ul style="list-style-type: none"> Confusion in choosing a right job Similar job alerts for frequent times Many of the jobs are not real The companies listed do not give their actual structure </div>	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? I.e., customers have to do it because of the change in regulations. <div> <ul style="list-style-type: none"> Giving incorrect details in the profile page Network problem User post false credentials Some job portals want payment in advance of the job starting The company and the job openings should be verified </div>	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? I.e., directly related: find the right solar panel installer, calculate usage and benefit; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) <div> <ul style="list-style-type: none"> User-friendly Chat support Providing the actual infrastructure of the company Cheating during online recruitment process </div>	
3. TRIGGERS TR <div> <ul style="list-style-type: none"> The user gets the job alert Job description reveals the necessary data </div>	10. YOUR SOLUTION SL To develop an end-to-end web application which in default have a lot of current job openings through job search API out of which appropriate job will be recommended based on user skill set. At the same time students can develop their skills side by side with various courses and webinars offered by reputed organization. In addition to this a smart chat bot will be available for 24*7 which can help users in finding the right job.	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE <div> Users have to upload their resumes and fill up the essential details such as name, education, skills, location, and experience </div> 8.2 OFFLINE <div> User can view the job description from their alerts </div>	Extract online & offline CH or BE	
4. EMOTIONS: BEFORE / AFTER EM Before: Looking for a dream job After: Feel comfortable they can stay connected and employed		Identify strong TR & EM		

CHAPTER 4

REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Login	Confirmation via Email Confirmation via OTP
FR-3	Get Job Recommendation through search API	We can use your job search API to get the current job opening in the market which will fetch the directly from the web page
FR-4	Job Alerts	Various modules triggers job alert. A notification is sent to the user whenever there is a job opening based on the user's skillset.
FR-5	ChatBot to solve user query	A chatbot can help answer FAQ's about applying, benefits or next steps in the application process.

4.2 NON-FUNCTIONAL REQUIREMENT:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	In case of job recommender application, Usability refers to the quality of a user's experience when interacting with the web UI .Usability is about effectiveness, efficiency and the overall satisfaction of the user. Usability describes the level of ease with which a system allows a user to get to that Goal.
NFR-2	Security	Authentication: Authentication is the act of determining the identity of a user. For example, User id and Password, Biometric Identification. Authorization: Authorization is the act of determining the level of access that an authorized user has to behaviour and data (use of firewalls).
NFR-3	Reliability	In a perfect world, a reliable piece of software is completely defect free, does not create downtime, and performs correctly in every scenario.
NFR-4	Performance	In Job Recommender Application performance indicates how the app is functioning and how responsive the app is to the end-user. There are tools available to measure Application Performance and enable app developers to detect and diagnose complex application performance problems to maintain the expected level of service to end-users.

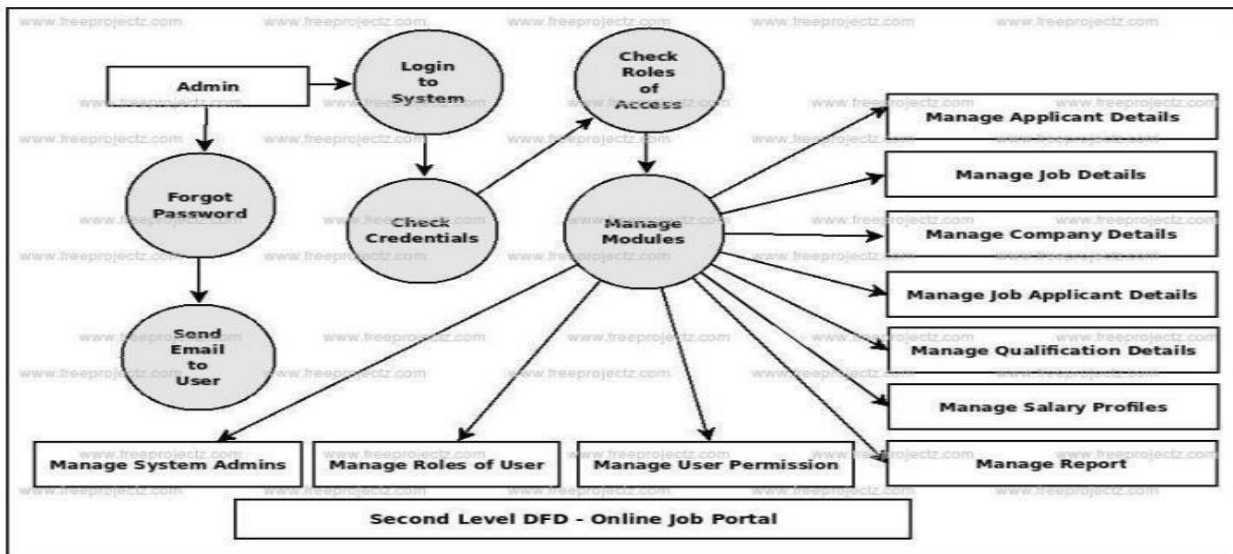
NFR-5	Availability	High availability systems are important in many industries because they help ensure systems function correctly for a continuous period. Technology and networks occasionally fail, such as when there's a power outage or a server error. In some industries, it's essential that the network remains functional at all times.
NFR-6	Scalability	One important application of recommendation system in Job Recruitment; in which candidates are elected by using online job recruitment portal based on their profile and job history and behaviour components.

CHAPTER 5

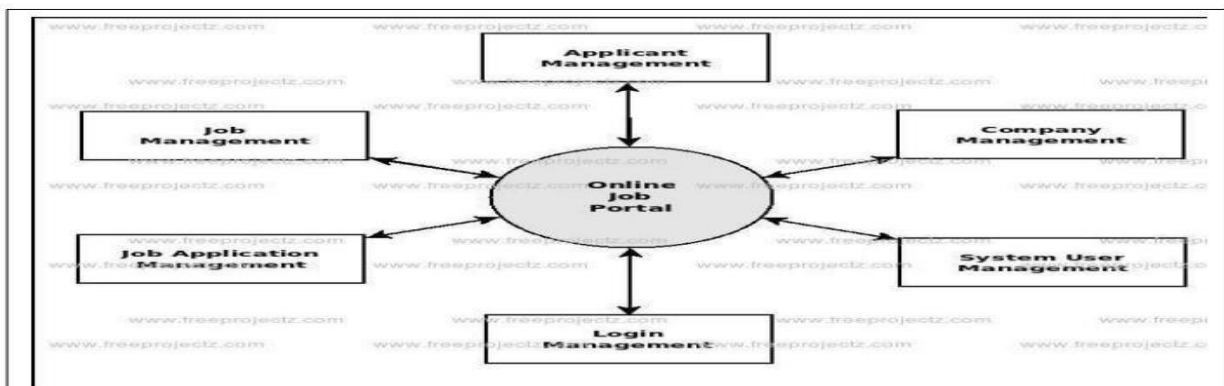
PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. It shows how data enters and leaves the system, what changes the information, and where data is stored.



Example: DFD Level 0 (online job portal)



5.2 USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)		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 online job web portal and jobs are recommended to the user skillsets.	I can register & access the dashboard with online web job portal Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register & access the dashboard	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can receive confirmation email	High	Sprint-1
	Dashboard		As a user, I can register for the application shown in the online job web portal which is suited for my skillsets.		High	
Customer (web user)			As a job seeker, user, freshers or experienced candidates. They want job recommendation email and known the recently updated job information through email or message. So that they were aware about the jobs based on their skillsets.			
Customer Care Executive			As a user, I want to record all the candidate application details based on the skillsets of the candidates like freshers, jobseekers and experienced candidate at the end of the given deadline.			
Administrator			As a admin, I want my requisition automatically populated with current job opportunities.			

5.3 SOLUTION ARCHITECTURE

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

- Job seekers struggling to get the desired jobs for the skills they have. They tend to miss out on job openings because there is a many opportunities to get their desire job that list millions of jobs which are generally not relevant at all to the users.

- In job recommender application job seekers can showcase their skills through their profiles. The user and their information are stored in the Database. User can find the jobs by using the search option or they can directly interact with the Chabot and get recommendation on Jobs based on their skillset.
- A notification is send to the user through E-mail, whenever there is a job opening based on the user's skillset.
- Job recommendation facilitates that experience, instead of having to scroll through a lot of job openings. We can easily get a job recommendation by using search API or Chabot. User can find easily their desire job through Email.

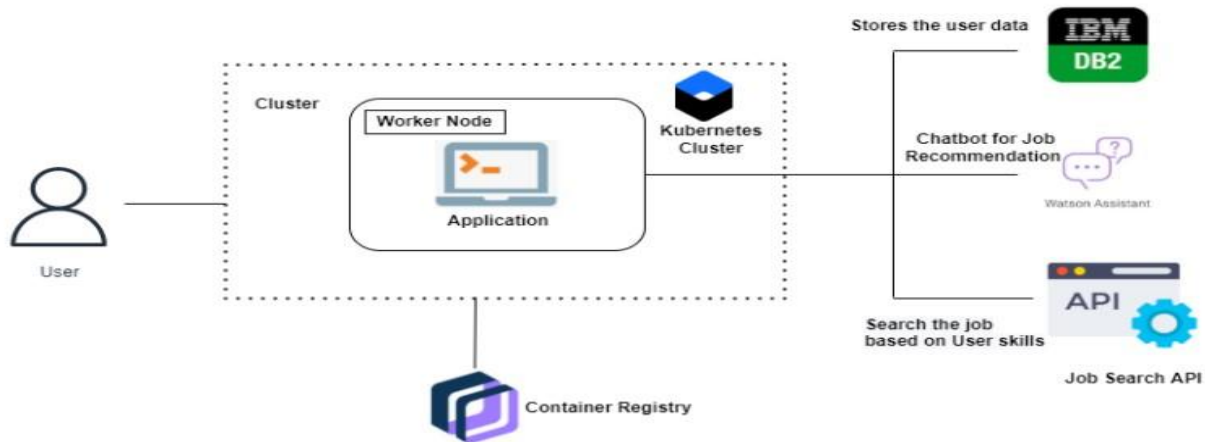


Figure 1: Architecture and data flow of the Skill/Job recommender application

Reference:

https://www.researchgate.net/publication/325697854_Job_Recommendation_based_on_Job_Seeker_Skills_An_Empirical_Study

CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	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.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-1		USN-2	As a user, I will receive a confirmation email once I have registered for the application.	1	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-1		USN-3	As a user, I can register for the application through Gmail.	2	Medium	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-1	Login	USN-4	As a user, I can log into the application by entering my email & password.	1	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-1	Dashboard	USN-5	As a user, I can access the website in a second.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-1	Dashboard	USN-6	As a user, If I Log in correctly, I can view my dashboard and I can navigate to any pages which are already listed there.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.

Sprint-2	User Profile	USN-7	As a user, I can view and update my details.	2	Medium	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
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Sprint-2	Database	USN-8	As a user, I can store my details and data in IBM Database.	2	Medium	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-2	Cloud Storage	USN-9	As a user, I can upload my photo, resume and much more in the website.	1	Medium	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-2	Chatbot	USN-10	As a user, I can ask the Chatbot about the latest job openings, which will help me and show the recent job openings based on my profile.		High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-2	Identity-Aware	USN-11	As a User, I can access my account by entering the correct login credentials and my user credentials are only displayed to me.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-3	Learning Resource	USN-12	As a user, I can learn the course and I will attain the skills which will be useful for developing my technical skills.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-3	Docker	USN-13	As a user, I can access the website in any device.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-3	Kubernetes	USN-14	As a user, I can access the website in any device.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.

Sprint 3	Development in cloud	USN-15	As a user, I can access the website in any device.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint 3	Technical Support	USN-16	As a user I can get customer care support	1	Medium	Vijay R, Navrang K P, Vishnu K, Sudhagar P.

Sprint 4	Unit Testing	USN-17	As a user, I can access the website without any interruption.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
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Sprint-4	Integration testing	USN-18	As a user, I can access the website without any interruption.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.
Sprint-4	System testing	USN-19	As a user, I can access the website without any interruption.	2	High	Vijay R, Navrang K P, Vishnu K, Sudhagar P.

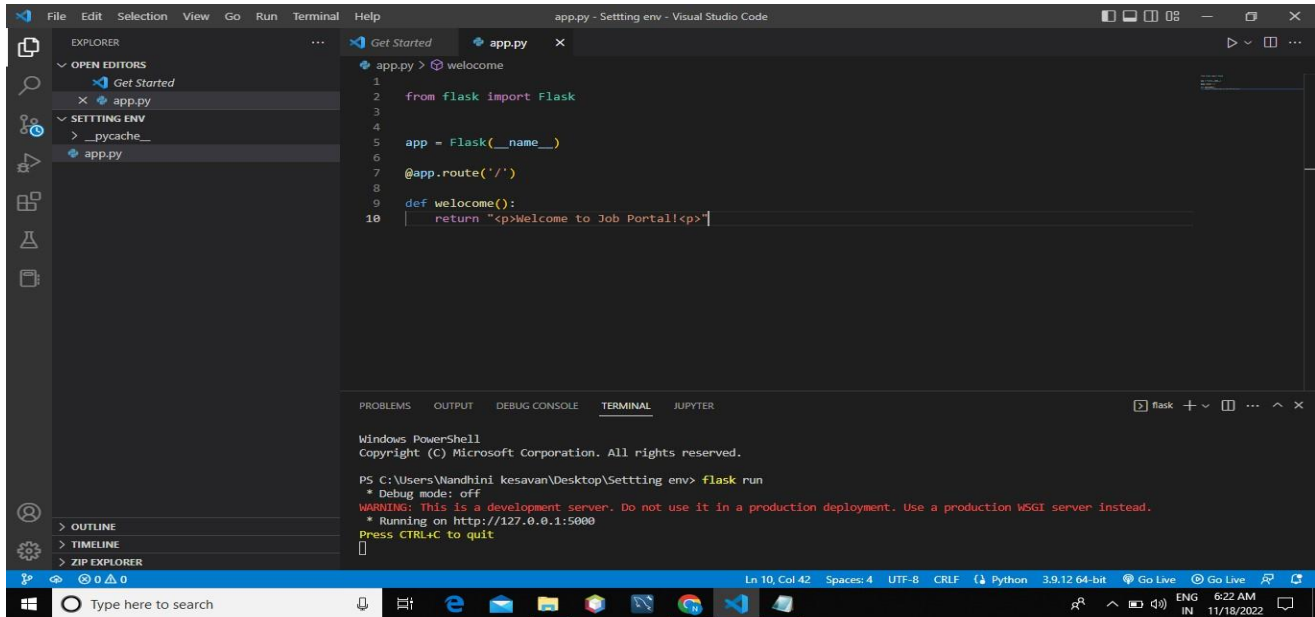
6.2 SPRINT DELIVERY SCHEDULE:

Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
20	6 Days	31 Oct 2022	05 Nov 2022	19	05 Nov 2022
20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

CHAPTER 7

SETTING UP AN ENVIRONMENT

7.1. CREATE FLASK PROJECT



The screenshot shows the Visual Studio Code interface with a Flask project named 'app.py' open. The code in 'app.py' is as follows:

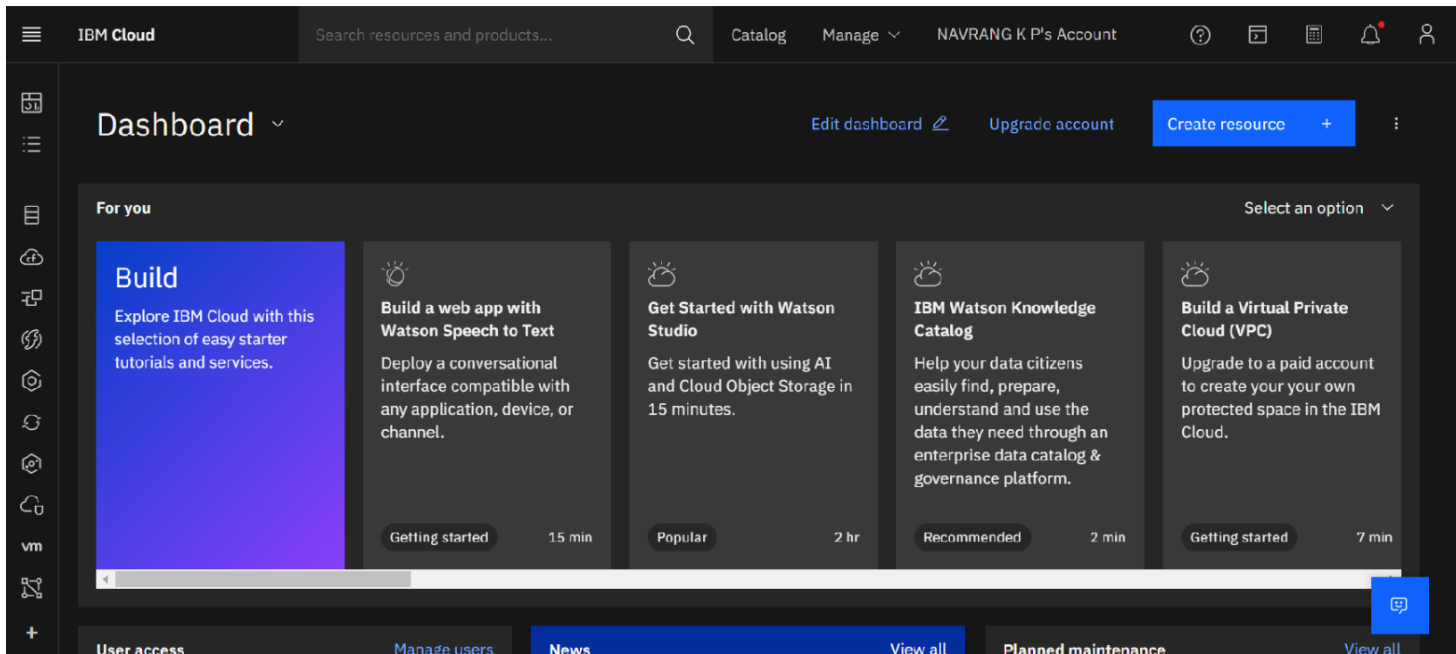
```
1  #!/usr/bin/env python
2  from flask import Flask
3
4
5  app = Flask(__name__)
6
7  @app.route('/')
8  def welcome():
9      return "<p>Welcome to Job Portal!<p>"
10
```

The terminal at the bottom shows the command 'flask run' being executed, resulting in the following output:

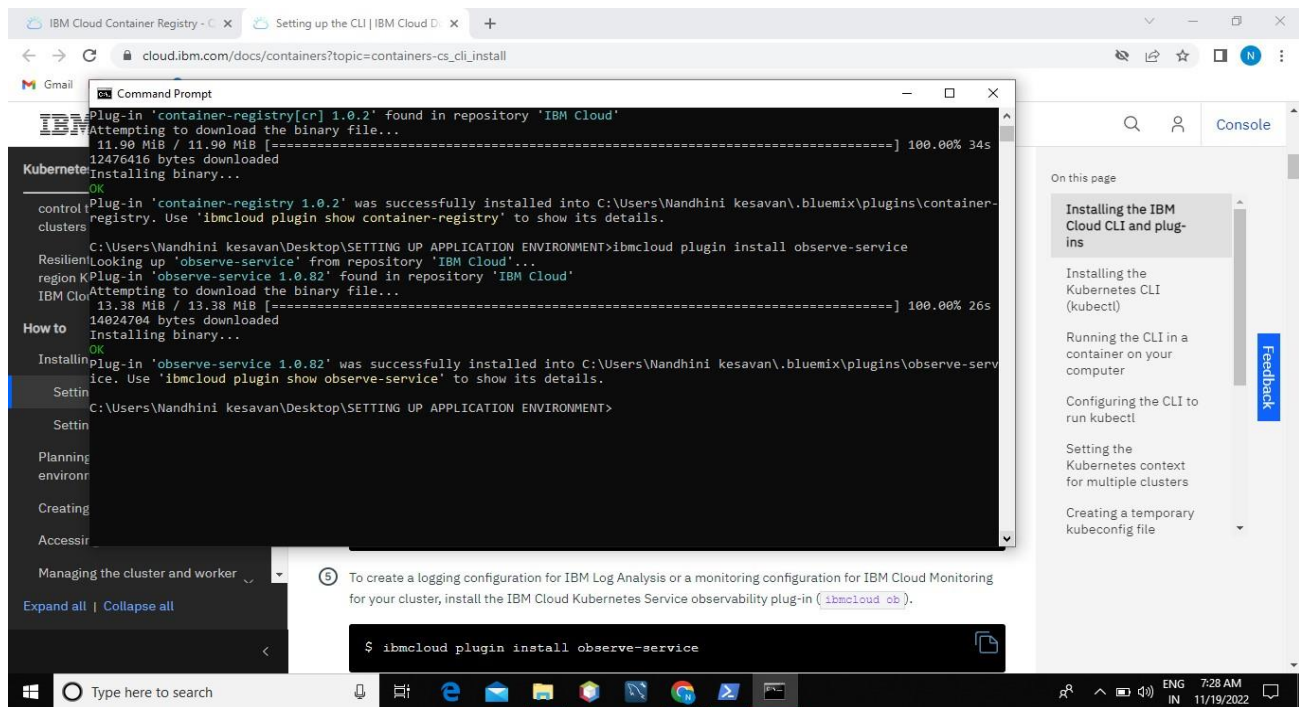
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\Wandhini kesavan\Desktop\Setting env> flask run
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

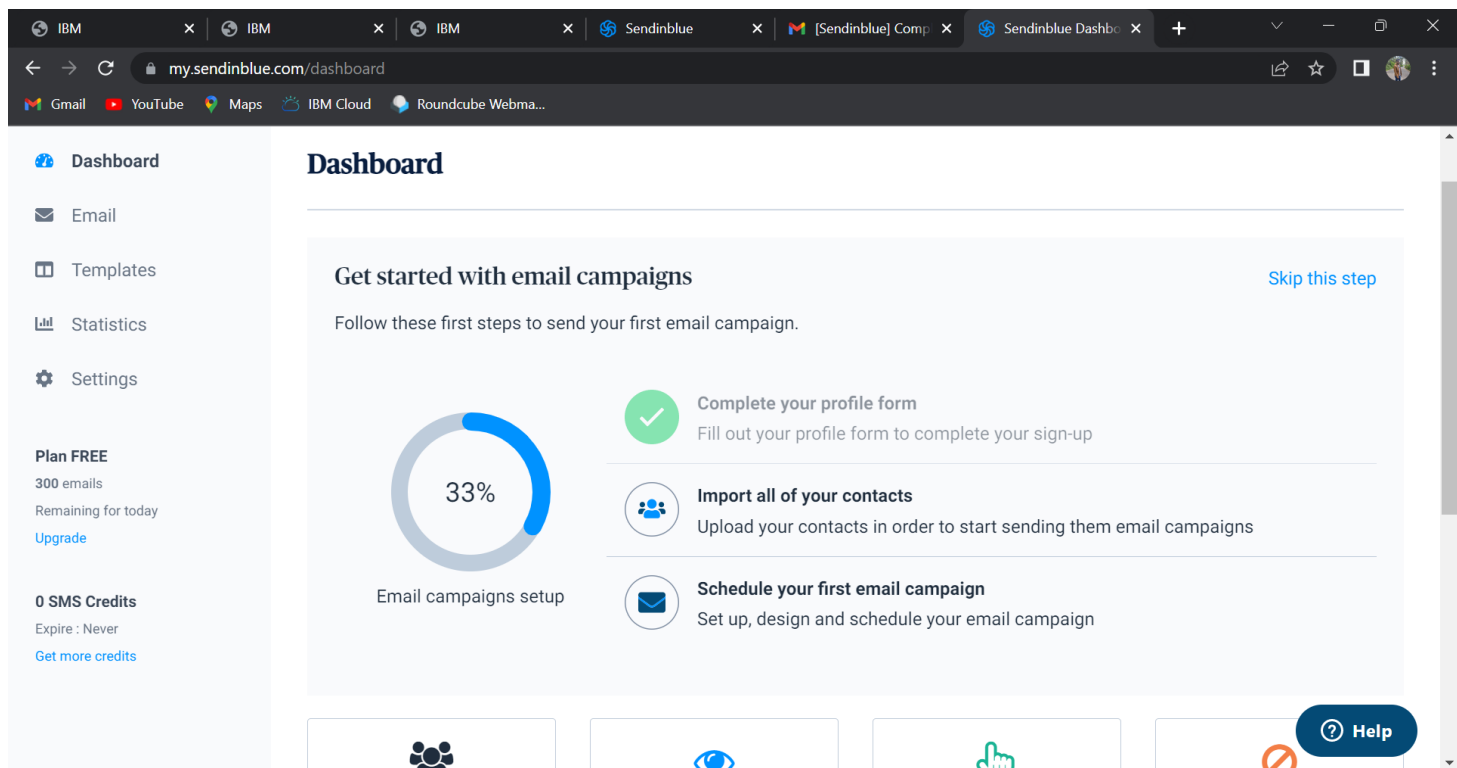
7.2. CREATE IBM CLOUD ACCOUNT



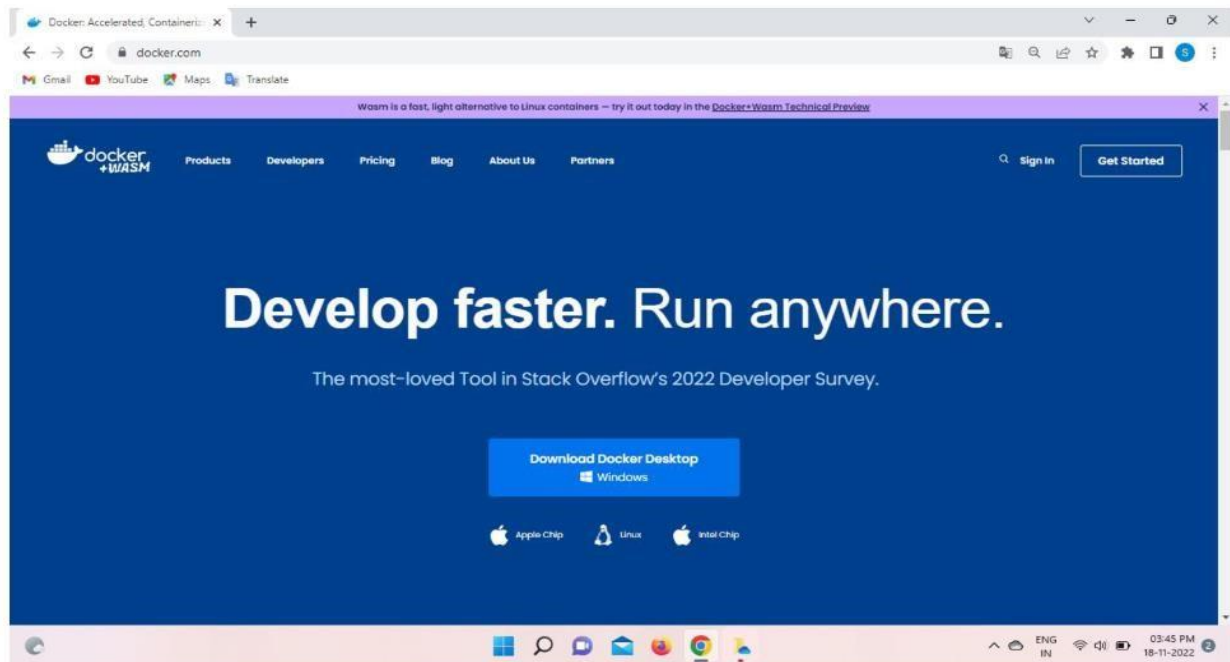
7.3. INSTALL IBM CLOUD CLI



7.4. CREATE AN ACCOUNT IN SENDGRID



7.5. DOCKER CLI INSTALLATION



CHAPTER-8

CODING & SOLUTIONING

(Explain the features added in the project along with code)

8.1 FEATURE

IBM WATSON ASSISTANT:

IBM Watson assistant uses artificial intelligence that understands customers in context to provide fast, consistent, and accurate answers across any application device or channel.

A job recommender application facilitates the experience, instead of having to scroll through a lot of job openings, We can use either chatbot or search API to know about your desired job.

In Chatbot people only need to answer a few questions and get the perfect recommendation within a minutes, if not seconds.



8.2 DATABASE CONNECTIVITY

```
from markupsafe import escape

import ibm_db
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=ea286ace-86c7-4d5b-8580-3fbfa46b1c66.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;PORT=31505;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=csr80916;PWD=yUE8PuQT3mYrvp9N", '', '')
print(conn)
print("Login sucessful")

app = Flask(__name__)
app.secret_key = '32y[wld,fnpysygfwpwek2;]1[2'

@app.route('/')
def home():
    message = "TEAM ID : PNT2022TMID29835" + " " + "BATCH ID : B1-1M3E "
    return render_template('index.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
    return render_template('login.html')

@app.route('/register', methods = ['GET', 'POST'])
def register():
    return render_template('register.html')

@app.route('/studentdashboard', methods = ['GET', 'POST'])
def studentdashboard():
    return render_template('Stdash.html')

@app.route('/industrydashboard', methods = ['GET', 'POST'])
def industrydashboard():
    return render_template('Indusdash.html')

@app.route('/changepass', methods = ['GET', 'POST'])
def changepass():
    return render_template('changepass.html')

@app.route('/register_industry', methods=['GET', 'POST'])
def register_industry():
    if request.method == 'POST':
        name = request.form['Nm']
        email = request.form['email']
        phonenumber = request.form['PhNo']
        password = request.form['pass']
```

```
sql = "SELECT * FROM industry WHERE email = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)
account = ibm_db.fetch_assoc(stmt)
```

CHAPTER 9

TESTING

9.1 TEST CASES

A test case is a set of rules or conditions to check if the system or one of its feature works in accordance to the requirement. It is a document with a set of details which includes, set of test data, expected results, actual results, environment information and soon. I have designed and executed a few test cases to check if the application meets the functional requirements.

Below are the test cases for the Job Search Portal web application.

TEST MODULE	TEST CASE	EXPECTED RESULT	TEST RESULT
ADMIN	Provide valid login credentials	User successfully logged in and directed to the admin dashboard page	PASS
ADMIN	Enters invalid login credentials	Displays Error message	PASS
ADMIN	Upon successful login, click on the 'List of Employers' tab.	Displays the details of list of active employers registered with the application	PASS
EMPLOYER	Provide details for registration	Employer successfully registered with the application	PASS
EMPLOYER	Upon successful login, click on 'Post New Job' tab	Employer posts jobs with the required details	PASS
JOBSEEKER	Provide details for registration	Jobseeker successfully registered with the application	PASS

JOBSEEKER	Enters invalid login credentials	Error message displayed	PASS
JOBSEEKER	Upon successful login, click on 'Search Jobs' tab	Details of the active job postings are displayed.	PASS

9.2. RESULTS

Test Objective: Navigation from splash screen to jobs screen

TEST CONDITION	INPUT SPECIFICATION	OUTPUT SPECIFICATION	PASS/FAIL
The user currently on the splash screen	Users enters credentials and clicks on login button	Direct to jobs screen	PASS

Test Objective: Navigation from jobs screen to job details screen

TEST CONDITION	INPUT SPECIFICATION	OUTPUT SPECIFICATION	PASS/FAIL
The user currently on jobs screen	Users click on the view against a particular job	Direct to job details screen	PASS

CHAPTER 10

ADVANTAGES &DISADVANTAGES

10.1. ADVANTAGES:

➤ **Getting Job Alerts:**

A superior job portal provides standard job alerts whenever there are job openings for you. This way, you won't neglect a chance to be valid for your target job and bound to start your career. Also, you can discover more posts to increase better options.

➤ **Classified:**

Once you register in a job portal, all your achievements, skills, and individual details will be reserved privately. This will be kept secure unless you let them split your details to your future employers. Also, job portals keep your job search narration classified which permits you to do the task surreptitiously.

➤ **More job opportunities:**

Job portals offer a full collection of job choices from top companies. It means you have a superior chance of searching the job you want anywhere and however; you want it.

➤ **Resourceful:**

With these portals, you can be relevant for a job effortlessly. Instead of going to your intention firm, you can submit your resume online. After submitting, you can relax, and wait for your future employers to take action.

10.2. DISADVANTAGES:

➤ **They have no screening.**

Anyone can sign up for a profile and apply for a job on an online job portal - no matter their credentials. With no official screening process in place, the website

you're using can allow unlimited unqualified candidates to apply. Reviewing unqualified applications is an even further waste of your time.

➤ **They're ineffective for high-level positions.**

Because they have no screening process and allow companies to post for a wide variety of jobs, online job search websites tend to be better choices for entry-level positions. Your high-level position won't get the attention or the kind of candidates you need

CHAPTER-11

CONCLUSION

We proposed a framework for job recommendation task. This frame work facilitates the understanding of job recommendation process as well as it allows the use of a variety of text processing and recommendation methods according to the preferences of the job recommender system designer. Moreover, we also contribute making publicly available a new dataset containing job seekers profiles and job vacancies. 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.

CHAPTER-12

FUTURE SCOPE

- The job boards have to keep up with the shift in consumer base and market demands. There has been a significant change happening in the digital platform in terms of the content the generation consumes and demands due to differences in political, technological, and economic points of view. Therefore, the job boards must focus on offering value propositions that are quite different and relevant as well.
- Recruiters and job seekers are experiencing an entirely automated process of searching and connecting. All job boards should be perfectly indexed, highly responsive, and exhaustive in job descriptions to establish their credibility and reliability. These features can be clubbed with technical upgrades like job tags supported with search engine optimizations and resume-matching criteria that are need of the hour.
- The job boards will be ready to face challenges from social media and professional networking sites. Job boards need to figure out what are the gaps and modify strategies that can make them more popular for job seekers and employers. The future generation relies more on digital networking tools to look for job searches. Easy accessibility to digital tools and techniques can help establish better connections which makes the job portals remain on the competitive edge.

CHAPTER-13s

APPENDIX

SOURCE CODE (SAMPLE)

14.1 SOURCE CODE

app.py

```
from flask import Flask, render_template, url_for, redirect, request, session
from werkzeug.utils import secure_filename
from importlib.resources import contents
from tkinter import S
from turtle import title
from flask import Flask, redirect, render_template, request, session, url_for, flash
from pyexpat import model
from sqlalchemy import PrimaryKeyConstraint
from werkzeug.utils import secure_filename

from markupsafe import escape

import ibm_db
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=ea286ace-86c7-4d5b-8580-3fbfa46b1c66.bs2io90l08kqb1od8l1cg.databases.appdomain.cloud;PORT=31505;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=csr80916;PWD=yUE8PuQT3mYrvp9N", '', '')
print(conn)
print("Login sucessful")

app = Flask(__name__)
app.secret_key = '32y[wld,fnpsygfwpwek2;]1[2'

@app.route('/')
def home():
    message = "TEAM ID : PNT2022TMID29835" + " " + "BATCH ID : B1-1M3E "
    return render_template('index.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
    return render_template('login.html')

@app.route('/register', methods = ['GET', 'POST'])
def register():
```

```

        return render_template('register.html')

@app.route('/studentdashboard', methods = ['GET','POST'])
def studentdashboard():
    return render_template('Stdash.html')

@app.route('/industrydashboard', methods = ['GET','POST'])
def industrydashboard():
    return render_template('Indusdash.html')

@app.route('/changepass', methods = ['GET','POST'])
def changepass():
    return render_template('changepass.html')

@app.route('/register_industry', methods=['GET', 'POST'])
def register_industry():
    if request.method == 'POST':
        name = request.form['Nm']
        email = request.form['email']
        phonenumber = request.form['PhNo']
        password = request.form['pass']

        sql = "SELECT * FROM industry WHERE email = ?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt, 1, email)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)

        if account:
            flash("Record Aldready found", "success")

        else:
            insert_sql = "insert into
industry(name,email,phonenumber,password)values(?,?,?,?)"
            prep_stmt = ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(prepare_stmt, 1, name)
            ibm_db.bind_param(prepare_stmt, 2, email)
            ibm_db.bind_param(prepare_stmt, 3, phonenumber)
            ibm_db.bind_param(prepare_stmt, 4, password)
            ibm_db.execute(prepare_stmt)
            return redirect(url_for("login"))

@app.route('/register_student', methods=['GET', 'POST'])
def register_student():
    if request.method == 'POST':
        name = request.form["Nm"]
        email = request.form["email"]

```

```

    phonenumber = request.form['PhNo']
    password = request.form['pass']

    sql = "SELECT * FROM student1 WHERE email = ?"
    stmt = ibm_db.prepare(conn, sql)
    ibm_db.bind_param(stmt, 1, email)
    ibm_db.execute(stmt)
    account = ibm_db.fetch_assoc(stmt)

    if account:
        flash("Record Aldready found", "success")

    else:
        insert_sql = "insert into
student1(name,email,phonenumber,password)values(?,?,?,?)"
        prep_stmt = ibm_db.prepare(conn, insert_sql)
        ibm_db.bind_param(prepare_stmt, 1, name)
        ibm_db.bind_param(prepare_stmt, 2, email)
        ibm_db.bind_param(prepare_stmt, 3, phonenumber)
        ibm_db.bind_param(prepare_stmt, 4, password)
        ibm_db.execute(prepare_stmt)
        return redirect(url_for('login'))

@app.route('/login_industry', methods=['GET', 'POST'])
def login_industry():
    if request.method == 'POST':
        mail = request.form['em']
        password = request.form['pass']
        print(id, password)
        sql = f"select * from industry where email='{escape(mail)}' and
password='{escape(password)}'"
        stmt = ibm_db.exec_immediate(conn, sql)
        data = ibm_db.fetch_both(stmt)

        if data:
            session["mail"] = escape(mail)
            session["password"] = escape(password)
            return redirect(url_for("industrydashboard"))

        else:
            return redirect(url_for("login",msg = "Account does not exists or invalid"))
    else:
        return "NOT WORKING"

@app.route('/login_student', methods=['GET', 'POST'])
def login_student():
    if request.method == 'POST':

```

```
    mail = request.form["em"]
    password = request.form["pass"]
    sql = f"select * from student1 where email='{escape(mail)}' and
password='{escape(password)}'"
    stmt = ibm_db.exec_immediate(conn, sql)
    data = ibm_db.fetch_both(stmt)

    if data:
        session["em"] = escape(mail)
        session["password"] = escape(password)
        return redirect(url_for("studentdashboard"))

    else:
        return redirect(url_for("login",msg = "Account does not exists or invalid"))

else:
    return "NOT WORKING"

if __name__ == "__main__":
    app.run(debug=True)
```

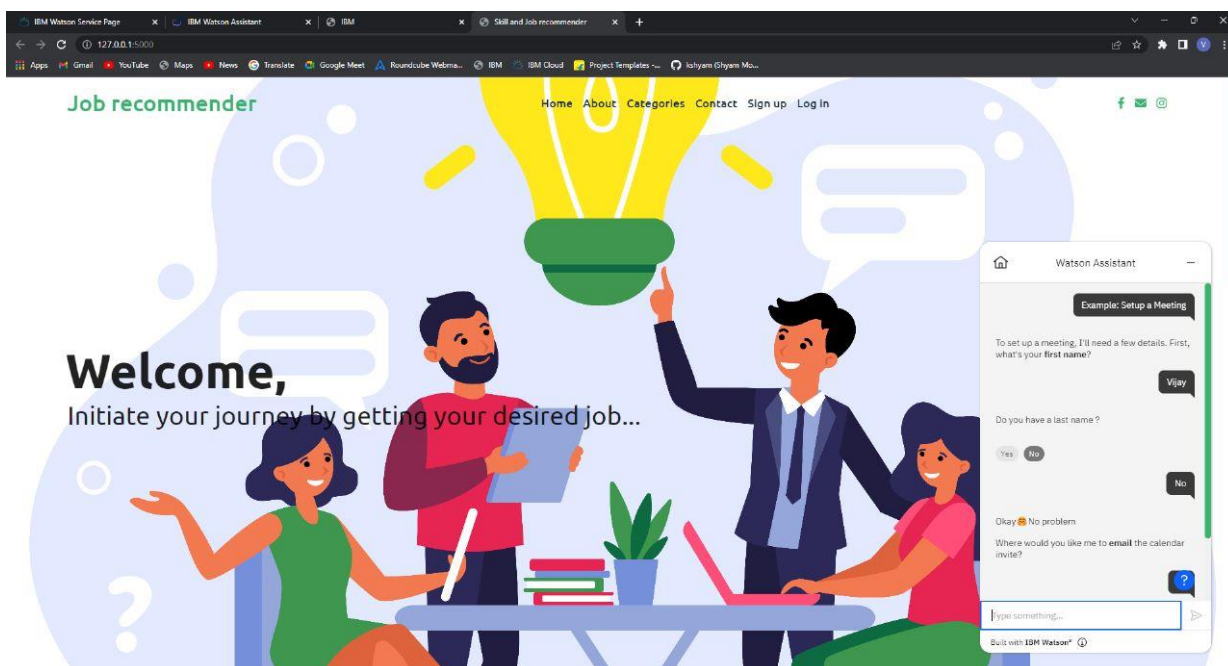
APPENDIX OUTPUT

(SCREENSHOT)

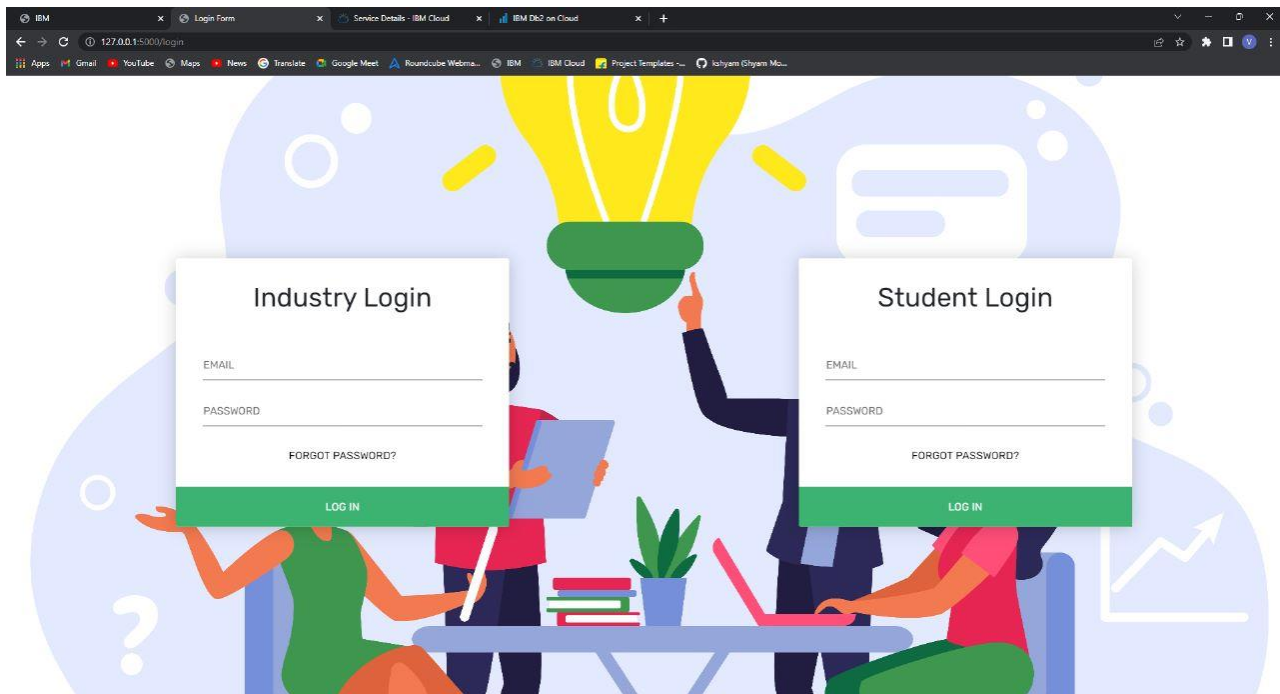
USER INTERFACE:



CHATBOT:



LOGIN PAGE:



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About Us



Skill and job recommender Info

- Welcome to JobRecommenderInfo.in, Here user can search and apply for the job based on their skill-set. This application recommend the available job vacancy position based on the users data.
- We are trying to make this website for freshers they have to find their desire jobs To make their dream comes true.
- In this website you search your desire job, Whats you wants based on your skills.
- Keeping Searching Until you get your desire jobs

Categories



Design & Developing

A creative designer is someone who uses design skills to promote a company



Design & Decorate

Design development engineers are responsible for testing products for various industries



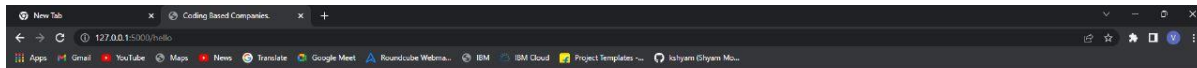
Sales & Service

A sales and service manager is responsible for researching and developing and implementing new sales plans

X Close

Hi! I'm a virtual assistant.
How can I help you today?





13.2 GITHUB LINK:

<https://github.com/IBM-EPBL/IBM-Project-37615-1660313929>

13.3 PROJECT DEMO LINK:

<https://www.youtube.com/watch?v=TE8mlk6NH9k>