SKILL / JOB RECOMMENDER APPLICATION

A PROJECT REPORT

Submitted by,
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<div align="center">**Skill / Job Recommender Application**</div>

1. INTRODUCTION

1.1 Project Overview

Nowadays, the job search is a task commonly done on the Internet using job search engine sites like LinkedIn1, Indeed, and others. Commonly, a job seeker has two ways to search for 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.

1.2 PROJECT PURPOSE

"Job search made easy" As the world-leading job board search enginewe are aware of how important it is to find the best job boards and we trust our guide will help you to choose the right media for your recruiting campaign. We have chosen only the job boards that offer recruiters a quick and easy way to showcase their specific job postings to qualified candidates.

2. LITERATURE SURVEY

Having lots of skills but wondering which job best suits you? Don't need to worry! We have developed a skill recommender solution through which the fresher or the skilled person can log in and find jobs by using the search option or 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 skillset of the users. The users and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. User will interact with the chatbot and can get recommendations based on their skills.

2.1.EXISTING PROBLEM

Everybody has a dream job; a career that they aspire to achieve. Job seekers work hard togain the right skills and knowledge to give them an edge over others in the role they seek. However, at times, despite their best efforts, one may find it challenging to move a step closer tothis sought-after job. We recently conducted an online poll with Indeed India to take a deep diveinto the challenges faced by job seekers. Here are the key takeaways: 40 percent of the respondents (3500+) shared that silence from the recruiter during or after the recruitment processis one of their biggest challenges Crafting a resume and getting noticed were the next big challenges, both taking 21 percent of the votes 18 percent of the respondents shared that getting insights on the employer was challenging.

2.2 REFERENCES

1. Buyya, R., Yeo, C.S., Venugopal, S., Broberg, J. and Brandic, I. (2009) Cloud Computing and Emerging IT Platforms: Vision, Hype, and Reality for Delivering Computing as the 5th Utility. Future Generation Computer Systems, 25, 599-616. http://dx.doi.org/10.1016/j.future.2008.12.001

2. [AlO12] Shaha T Al-Otaibi and Mourad Ykhlef. "A survey of job recommender systems". In: International Journal of the Physical Sciences 7.29 (2012), pp. 5127–5142. issn: 19921950. doi: 10.5897/IJPS12. 482.

3. [Dia13] M Diaby, E Viennet, and T Launay. "Toward the next generation of recruitment tools: An online social network-based job recommender system". In: Proc. of the 2013 IEEE/ACM Int. Conf. on Advances in Social Networks Analysis and Mining, ASONAM 2013 (2013), pp. 821–828. doi: 10. 1145/2492517.2500266.

4. [Kus15] M Kusner et al. "From word embeddings to document distances". In: Proc. of the 32nd Int. Conf. on Machine Learning, ICML'15. 2015, pp. 957–966.

## 2.3.PROBLEM STATEMENT DEFINITION

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

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 behaviors 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.

- An empathy map is a **visual map** where the team member has to identify with different feelings, emotions, needs, goals, etc. of the target audience they are designed for. It helps the team to empathize with their users and understand their problems in order to design better products or services for them.
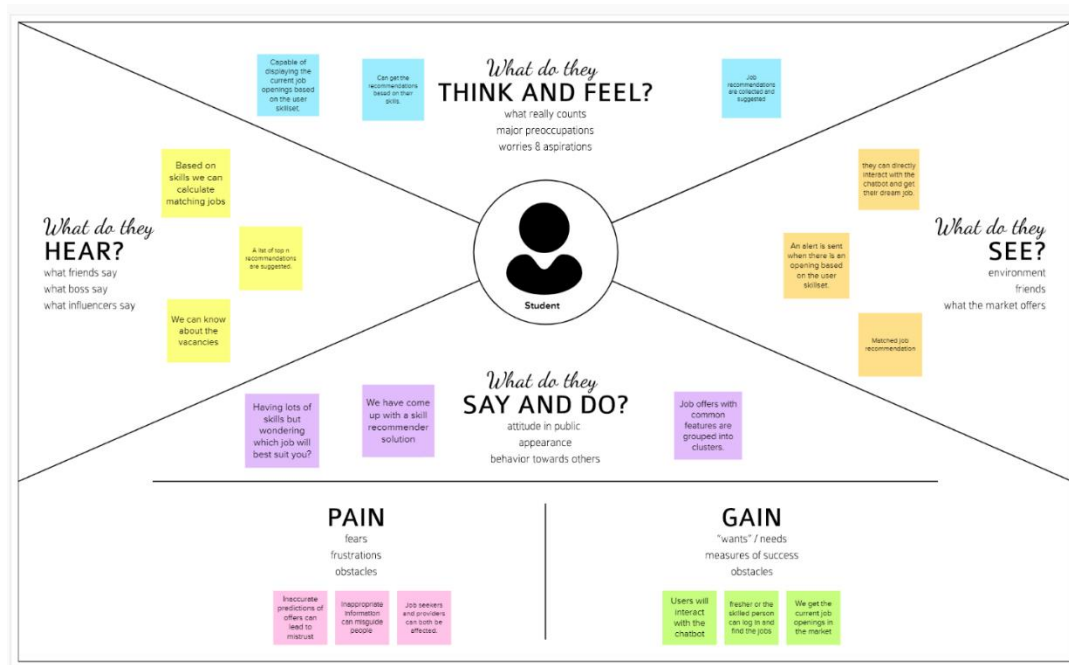
3.2 . IDEATION BRAINSTORMING

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem-solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

3.3. Proposed Solution

S.No	Parameter	Description
1	Problem Statement	1) To recommend a job based on skills 2) To display the current job openings based on the user skillset.
2	Idea/Solution description	1) Recommendation is done at a faster rate. 2) Accuracy of recommendation.
3	Novelty/Uniqueness	1) It provides robust and trusted support. 2) Maintaining database which contains details of the job availability.
4	Social Impact	1) Helps us to get job easily. 2) Very helpful in making decision faster. 3) Can be used 24x7.
5	Business Model	1) This can be implemented as an essential job recommender method in every country. 2) Accurate recommendation can encourage the users.
6	Scalability of Solution	1) Accurate recommendation and extensive use. 2) Availability.

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.

PURPOSE:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fir 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.

1. CUSTOMER SEGMENT(S) `CS`

Job Seekers.

6. CUSTOMER LIMITATIONS EG. BUDGET, DEVICES `CL`

Need to provide right skillsets and bios.

5. AVAILABLE SOLUTIONS PROS & CONS `AS`

On the job recommendation system
it can also available for providing
an solution location based services.

2. PROBLEMS / PAINS + ITS FREQUENCY `PR`

There could be more than one,
explore different sides.
Having lots of skills but wondering
which job will best suit you?

9. PROBLEM ROOT / CAUSE `RC`

Decision fatigue on choosing
the right job based upon their skillsets.

7. BEHAVIOR + ITS INTENSITY `BE`

Directly: They attend face-face interviews
and more.
Indirectly: They can choosing by online services.

3. TRIGGERS TO ACT `TR`

Having an trouble in decision making.
That which job will suitable
for a right qualification.

10. YOUR SOLUTION `SL`

Creating an Attractive
end-to-end web application capable of
displaying the current job openings
based on the user skillset.

8. CHANNELS of BEHAVIOR `CH`

ONLINE

Using auto recommender web application
to get the job.

OFFLINE

Using web application offline services
to get right job.

4. EMOTIONS BEFORE / AFTER `EM`

Before:
Anxiety about future,
struggling in decision making
for the right job.
After:
Picking right job by the Recommender.

4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

Following are the functional requirements of the proposed solution.

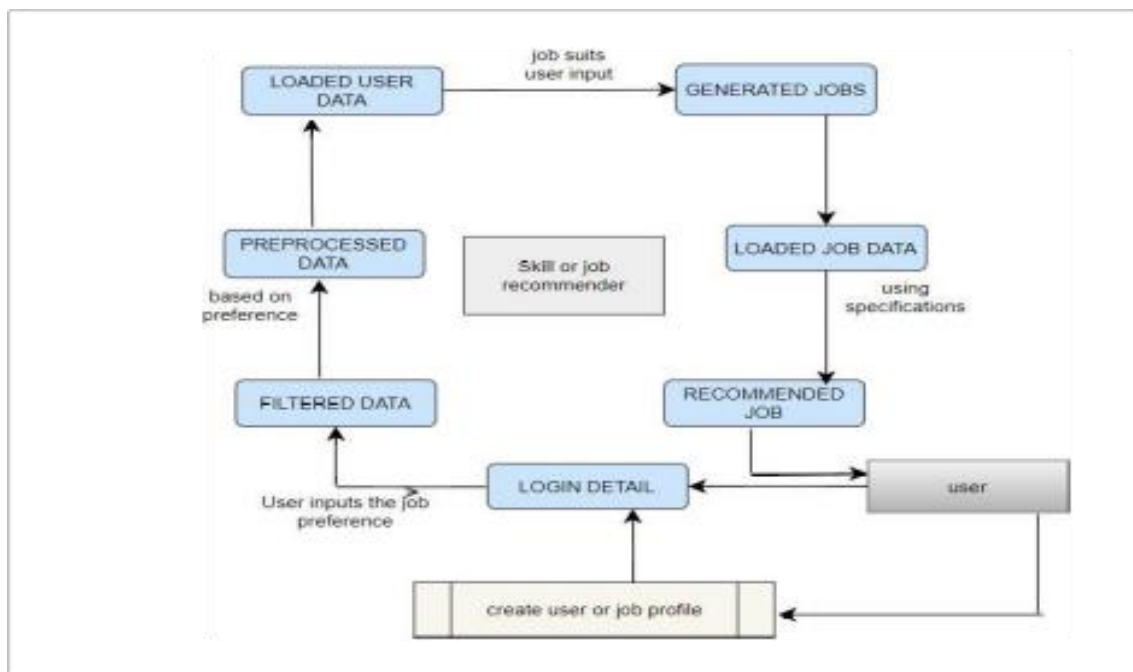| FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration via Form And via Gmail
FR-2	User Confirmation	Confirmation through Email That is through OTP
FR-3	Chat Bot	A Chat Bot will be there in website to solve user queries and problems related to applying a job, search for a job and much more.
FR-4	User Login	Login through Form Login through Gmail
FR-5	User Search	Exploration of Jobs based on job filters and skill recommendations.
FR-6	User Profile	Updation of the user profile through the login credentials
FR-7	User Acceptance	Confirmation of the Job.

4.2 NON-FUNCTIONAL REQUIREMENTS

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This application can be used by the job seekers to login and search for the job based on her Skills set.
NFR-2	**Security**	This application is secure with separate login for Job Seekers as well as Job Recruiters.
NFR-3	**Reliability**	This application is open-source and feel free to use, without need to pay anything. The enormous job openings will be provided to all the job seekers without any limitation.
NFR-4	**Performance**	The performance of this application is quicker response and takes lesser time to do any process.
NFR-5	**Availability**	This application provides job offers and recommends Skills for a Particular Job openings.
NFR-6	**Scalability**	The Response time of the application is quite faster compared to any other application.

5. PROJECT DESIGN

5.1 DATA FLOW DIAGRAM

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 enters and leaves the system, what changes the information, and where data is stored.

5.2 TECHNICAL ARCHITECTURE

Cluster

Worker Node

Application

Kubernetes Cluster

User

Container Registry

Stores the user data

IBM DB2

Chatbot for Job Recommendation

Watson Assistant

Search the job based on User skills

API

Job Search API
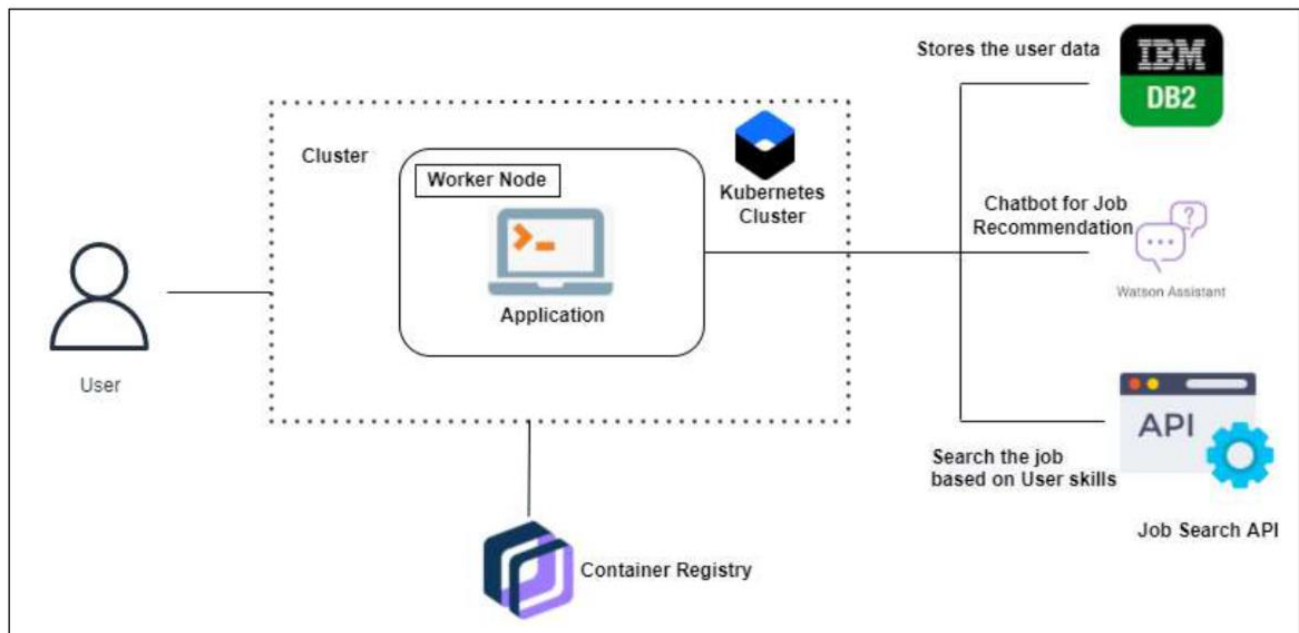
5.1 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Job Seeker (Mobile user)	Registration	USN-1	As a user, I can register for the application bye 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 Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email		High	Sprint-1

			& password			
	Dashboard	USN-6	As a user, I can access the dashboard for jobs to search	I can access the dashboard	High	Sprint-1
Job Seeker (Web user)	Login	USN-7	As a user, I can log into the application by entering email & password	I can log into the account I have created	High	Sprint-1
Administrator	Registration	USN-8	As a administrator, I can see the registration details	I can access the registration details	High	Sprint-1
	Login	USN-9	As a administrator, I can see the login details	I can access the login details	High	Sprint-1
	Dashboard	USN-10	As a administrator, I can update the dashboard	I can update the dashboard	High	Sprint-1

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Acceptance criteria	Priority
sprint-1	User registration	USN-1	As a user, i can register for the application by entering my email, password, and confirming my password	2	I can access myaccount/ dashboard	High
Sprint-1	User Confirmation	USN-2	As a user, I will receive confirmation email once i have registered for the application	1	I can receive a confirmation email and clickconfirm	High
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	I can register &access the dashboard withFacebook login	Low
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	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	1	I can access my account/ dashboardrd	High

Sprint-1	Dashboard	USN-6	Create a model set that contains those models, then assign it to a role.	2	Assign that group to the appropriate roles on the Roles page	High
Sprint-1	Identity-Aware	USN-7	Open, public access, User authenticated access, Employee restricted access.	1	Company public website. App running on the company intranet. App with access to customer private information.	Low
Sprint-1	Communication	USN-8	A customer care executive is a professional responsible for communicating the hows and why's regarding service expectations within a company.	1	For how to tackle customer queries.	Medium
Sprint-1	Device management	USN-9	You can Delete/Disable/Enabl e devices in Azure Active Directory but you cannot Add/Remove Users in the directory.	2	Ease of use	High

6.1 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planne d)	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	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

6.2 Reports from JIRA

Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile <u>software development</u> methodologies such as <u>Scrum</u>. However,burn down charts can be applied to any project containing measurable progress over time
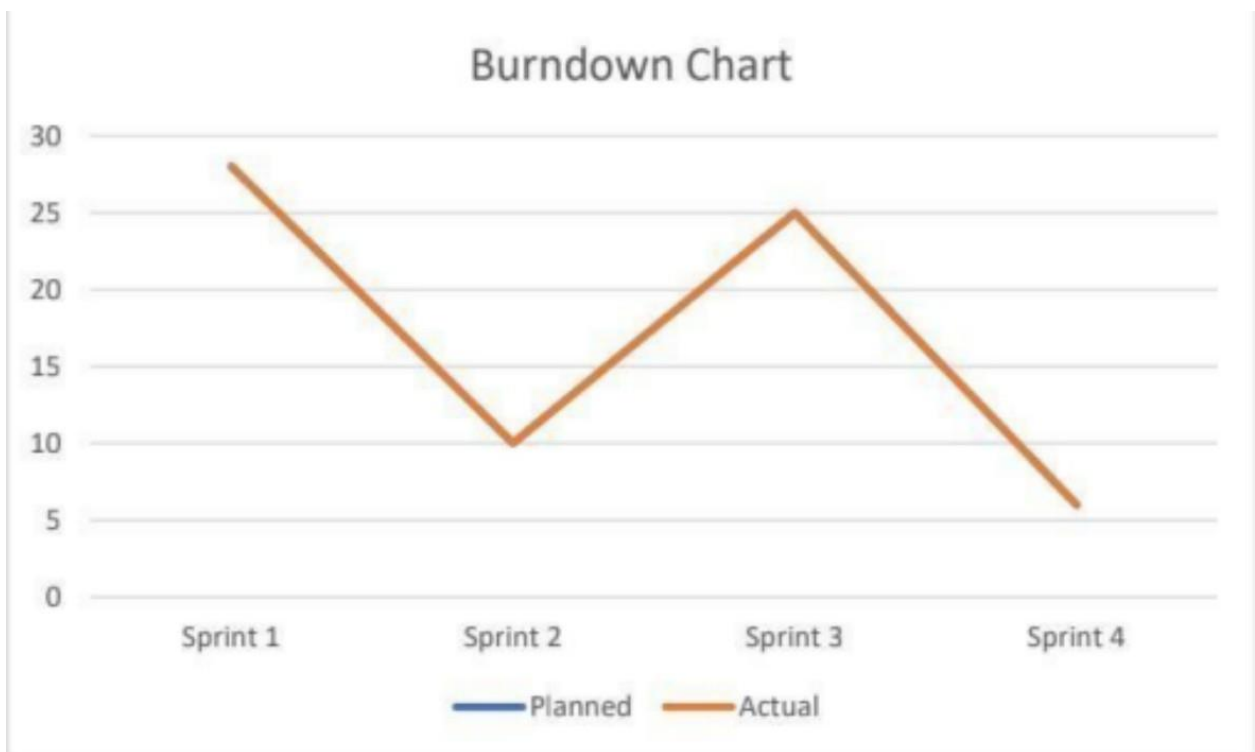
7. CODING & SOLUTIONING
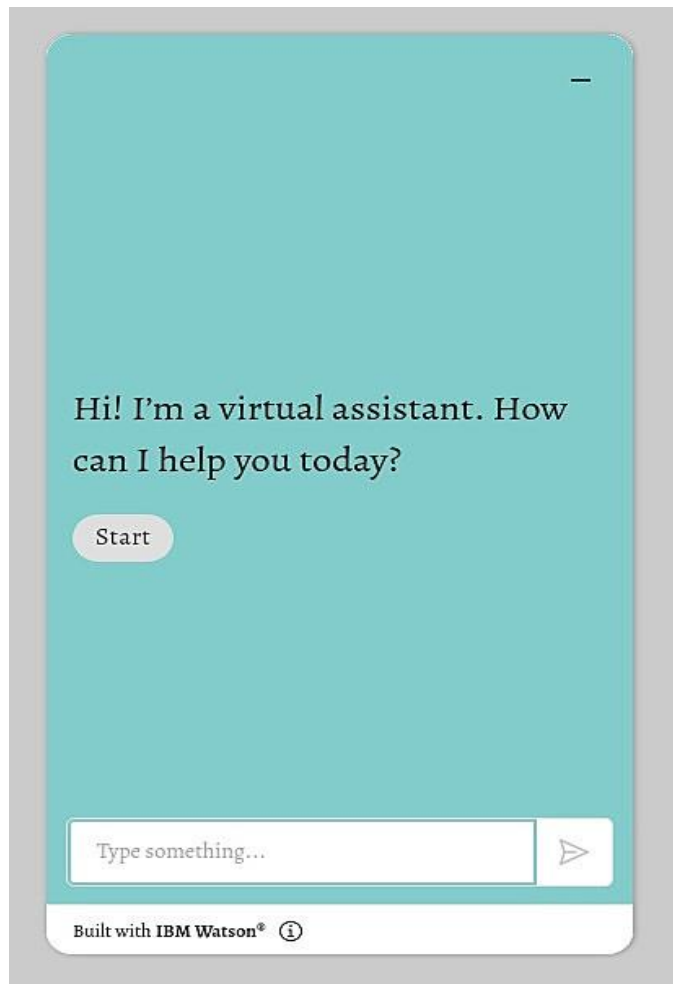
7.1 Feature 1

```
<script>
    window.watsonAssistantChatOptions = {
      integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.
      region: "au-syd", // The region your integration is hosted in. serviceInstanceID: "9f2196de-4c2c-
      4b82-874b-9768ad3501e4", // 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);});
```

7.2 Feature 2

HTML HOME PAGE:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JOBPORTAL | HOME</title>
    <meta charset="UTF-8">
     <!-- Compiled and minified CSS -->
    <link rel="stylesheet" href="../static/css/card.css">
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/css/materialize.min.c ss">
    <!-- Compiled and minified JavaScript -->
    <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/js/materialize.min.js">
</script>
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon- 32x32.png">
        <!-- bootstrap css cdn -->
        <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384- JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9
UJ0Z" crossorigin="anonymous">
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
        <!-- css stylesheet -->
        <link rel="stylesheet" href="../static/css/reg.css">
        <link rel="stylesheet" href="../static/css/style.css">
        <!-- font styles cdn -->
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font- awesome/6.2.1/css/all.css"
integrity="sha512- FA9cIbtlP61W0PRtX36P6CGRy0vZs0C2Uw26Q1cMmj3xwhftftymr0sj8/YeezDn
RwL9wtWw8ZwtCiTDXlXGjQ==" crossorigin="anonymous" referrerpolicy="no-referrer" />
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/6.2.1/css/all.min.css" integrity="sha512-
MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcn
K1OnMGCdVK+iQrJ7lzPJQd1w==" crossorigin="anonymous" referrerpolicy="no-referrer" />
        <link rel="preconnect" href="https://fonts.gstatic.com">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=sw ap"
rel="stylesheet">
```

```html
</head>
<body>
    <!-- bootstrap navbar -->
    <nav class="navbar sticky-top navbar-expand-lg navbar-dark">
        <div class="container-fluid menu">
         <a class="main-logo-img mt-3" href="home"><img src="/static/img/goseek.png" alt="sheep-logo"
         height="180px" width="180px">
           <!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->
         </a>
         <div class="row donate-sponsor linker" style="text-align:center;">
           <a type="button" class="col-3 links" id="donate"href="login">LOGIN</a>
           <a type="button" class="col-3 links" id="sponsor"href="register">REGISTER</a>
         </div>
        </div>
    </nav>
    <!-- navbar ends -->
<div class="card-container">
     <div class="card">
       <div class="card-box">
       <div class="card-image waves-effect waves-block waves-light">
         <img class="activator" src="../static/img/startup.svg" height="85px"width="85px">
       </div>
       <div class="card-content">
         <span class="card-title activator grey-text text-darken-4 title-col">Mission </span>
       </div></div>
       <div class="card-reveal">
         <span class="card-title grey-text text-darken-4 title-col">Mission  <iclass="fa-solid fa-
caret-down"></i></span>
          <p class="title-sub">GoSeek is an edTech organization with a vision to bridge the gap between
academia & industry. Whether you are new to the workforce, are a seasoned professional, or somewhere
in between, GoSeek's contributors will help you move the needle on your career and get the job you want
faster than you think.Our outcome-based experiential learning programs on emerging technologies
(Internet of Things, Machine Learning, Data Science, Artificial Intelligence, Robotics) are building skilled
entry - level engineers, for thecorporate world.
          </p>
       </div>
     </div>
     <div class="card"> <div class="card-box">
       <div class="card-image waves-effect waves-block waves-light">
         <img class="activator" src="../static/img/vision.svg" height="85px"width="85px">
       </div>
       <div class="card-content">
```

```
            <span class="card-title activator grey-text text-darken-4 title-col">Vision
</span>
```

APP.PY FLASK:

```
from flask import Flask, render_template, request, redirect, url_for, sessionimport re
import ibm_db
import os
import json
app = Flask(_name_)job="
app.secret_key='a'
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=2f3279a5-73d1-4859-88f0-
a6c3e6b4b907.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=30756;
Security=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=nmc63120;
PWD=BC9ub7wWLk2Yb8fM;",",")
@app.route('/')def
index():
    return redirect(url_for('register'))
@app.route('/register', methods =['GET', 'POST'])def register():
    msg = "
    if request.method == 'POST':
        username = request.form['username']email =
        request.form['email'] password =
        request.form['password']
        sql = "SELECT * FROM users WHERE username =?"stmt =
        ibm_db.prepare(conn, sql) ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)print(account)
        if account:
            msg = 'Account already exists !'
            return render_template('register.html', msg = msg)elif not
        re.match(r'[^@]+@[^@]+\.[^@]+', email):
            msg = 'Invalid email address !'
        elif not re.match(r'[A-Za-z0-9]+', username):
            msg = 'name must contain only characters and numbers !'else:
            insert_sql = "INSERT INTO users VALUES (?, ?, ?)"prep_stmt =
            ibm_db.prepare(conn, insert_sql) ibm_db.bind_param(prep_stmt, 1,
            username)
            ibm_db.bind_param(prep_stmt, 2, email)
            ibm_db.bind_param(prep_stmt, 3, password)ibm_db.execute(prep_stmt)
            msg = 'You have successfully registered !'
            return render_template('login.html', msg = msg)elif
    request.method == 'POST':
```

```python
        msg = 'Please fill out the form !'
    return render_template('register.html', msg = msg)
@app.route('/login',methods =['GET', 'POST'])def login():
    global userid
    msg = ''if
    request.method
    == 'POST' :
    username =
    request.form['us
    ername']
    password =
    request.form
    ['password']
        sql = "SELECT * FROM users WHERE username =? AND password=?" stmt =
        ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,password)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt) print
        (account)
        if account: session['loggedin'] =
            True
            session['id'] = account['USERNAME'] userid=
            account['USERNAME'] session['username'] =
            account['USERNAME']msg = 'Logged in successfully !'
            msg = 'Logged in successfully !'
            return render_template('dashboard.html', msg = msg)else:
            msg = 'Incorrect Username / Password!' return
    render_template('login.html', msg = msg)

@app.route('/dashboard')def
dash():
    return render_template('dashboard.html')
@app.route('/display')def
display():
    try:
        username = session['username']except:
        return render_template('home.html',msg='Please login first')print(username)
    sql = "SELECT * FROM jobs WHERE username =?"stmt =
    ibm_db.prepare(conn, sql)
    print(stmt) ibm_db.bind_param(stmt,1,username)
    ibm_db.execute(stmt)
    print(stmt)
    account = ibm_db.fetch_assoc(stmt)print
```

```python
    ("display",account)
    # print(session["username"],session['id'])
    # sql = "SELECT username FROM jobs WHERE username =?"#
    stmt=ibm_db.prepare(conn,sql)
    # ibm_db.bind_param(stmt,1,session['username'])#
    ibm_db.execute(stmt)
    # account = ibm_db.fetch_assoc(stmt)#
    print("accountdislay",account)
    return render_template('display.html',account = account)

  @app.route('/logout')def
  logout():
session['loggedin'] = False session.pop('id',
None) session.pop('username', None) return
render_template('home.html')
  @app.context_processordef
  override_url_for():
    return dict(url_for=dated_url_for)
  def dated_url_for(endpoint, **values):if endpoint
    == 'static':
        filename = values.get('reg', None)if
        filename:
            file_path = os.path.join(app.root_path, endpoint, filename)values['q'] =
            int(os.stat('./static/css/reg.css').st_mtime)
    return url_for(endpoint, **values)
  @app.route('/home')def
  home():
    msg=session['loggedin']
    return render_template('home.html',msg=msg)

  @app.route('/apply/<job>')def
  getJob(job):
    job=job
    return redirect(url_for('apply',job=job))
  @app.route('/apply',methods =['GET', 'POST'])def apply():
    msg="
    try:
        print(session['id'])except:

        return render_template('apply.html',msg='Something went wrong')msg = "
    if request.method == 'POST' : username =
            session['username']email =
            request.form['email']
            qualification= request.form['qualification']skills =
```

```python
            request.form['skills']
            categ = request.form['s']
            sql = "SELECT job FROM jobs WHERE username =?"stmt =
            ibm_db.prepare(conn, sql) ibm_db.bind_param(stmt,1,username)
            ibm_db.execute(stmt)
            account = ibm_db.fetch_assoc(stmt)if account:
                print(account)
                msg = 'There is only 1 job position! for you' return
                render_template('apply.html', msg = msg)
            insert_sql = "INSERT INTO jobs VALUES (?, ?, ?, ?, ?, ?)"prep_stmt =
            ibm_db.prepare(conn, insert_sql) ibm_db.bind_param(prep_stmt, 1, username)
            ibm_db.bind_param(prep_stmt, 2, email)
            ibm_db.bind_param(prep_stmt, 3, qualification)
            ibm_db.bind_param(prep_stmt, 4, skills)
            ibm_db.bind_param(prep_stmt, 5, categ)
            ibm_db.bind_param(prep_stmt, 6, job)
            ibm_db.execute(prep_stmt)
            msg = 'You have successfully applied for '+job+' !'
            session['loggedin'] = True
            TEXT = "Hello, a new application for job position" ,job," is requested"return
            render_template('dashboard.html', msg = msg)
    elif request.method == 'POST': msg =
        'Please fill out the form !'

    if request.json != None: session['job'] =
        request.json
        session['job'] = session.get['job',None]
    return render_template('apply.html', msg = msg)

if _name_ == '_main_': job=""
    app.run(debug=True)
```

APPLY.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JOBPORTAL | APPLY</title>
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
```

```html
    <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-
32x32.png">
    <!-- bootstrap css cdn -->
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
    <!-- css stylesheet -->
    <link rel="stylesheet" href="../static/css/reg.css">
    <link rel="stylesheet" href="../static/css/style.css">
    <!-- font styles cdn -->
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=sw ap"
rel="stylesheet">
</head>
<body>
    <!-- bootstrap navbar -->
    <nav class="navbar sticky-top navbar-expand-lg navbar-light">
      <div class="container-fluid menu">
        <a class="main-logo-img mt-3" href="home"><img src="static/img/goseek.png" alt="sheep-logo"
height="180px" width="180px">
          <!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->
        </a>
        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false" aria-
label="Toggle navigation">
          <span class="navbar-toggler-icon"></span>
        </button>
        <div class="row donate-sponsor dash">
          <a type="button" class="col-6 links" id="donate"href="/logout">LOGOUT</a>
          <a type="button" class="col-6 links" id="sponsor" href="display">MYJOBS</a>
        </div>
      </div>
    </nav>
      <!-- navbar ends -->
    <!-- Login form -->
    <div class="login text-center mt-5">
        <h2>Apply Now</h2>
        <div class="msg">{{msg}}</div>
```

```html
    <form action="/apply" method="post" class="mt-3">
        <input type="email" name="email" placeholder="Enter Your Email"id="email"
required></br></br>
        <input type="text" name="qualification" placeholder="Enter YourQualification"
id="qualification" required></br></br>
        <input type="text" name="skills" placeholder="Enter Your Skills"id="skills"
required></br></br>
        <select name ="s">
        <option value ="PYTHON"> Python</option>
        <option value ="ML"> ML</option>
        <option value ="AI"> AI</option>
        </select>
        </br></br>
    <button style="width: 15%;
    margin-left: auto;
    margin-right: auto;" type="submit" id="button" class="btn btn-primary">Submit</button>
    </form>
</div>

<div class="note mt-3 text-center">
  <p> Click here to go to dashboard <a href="dashboard">Dashboard! </a> </p>
  </div>
  <div class="alert">{{msg}}</div>
  <script> window.watsonAssistantChatOptions = {
      integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of thisintegration.
      region: "au-syd", // The region your integration is hosted in. serviceInstanceID: "9f2196de-4c2c-
      4b82-874b-9768ad3501e4", // 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>
</body>
</html>
```

LOGIN.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JOBPORTAL | LOGIN</title>
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <link rel="stylesheet" href="../static/css/reg.css">
        <link rel="preconnect" href="https://fonts.googleapis.com">
        <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
        <link href="https://fonts.googleapis.com/css2?family=Secular+One&display=swap" rel="stylesheet">
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico"type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <link rel="icon" type="image/png" sizes="16x16"
    href="/assets/img/favicon-32x32.png">
            <!-- bootstrap css cdn -->
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
        <!-- css stylesheet -->
      <link rel="stylesheet" href="../static/css/reg.css">
        <link rel="stylesheet" href="../static/css/style.css">
        <!-- font styles cdn -->
        <link rel="preconnect" href="https://fonts.gstatic.com">
        <link
href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=sw ap"
rel="stylesheet">
```

```html
</head>
<body>
    <div class="main">
        <div class="user">
            <div class="logo"><img src="../static/img/goseek.png" alt="tie"height="180px"
width="180px"></div>
        <header class="user_header"><h1 class="user_title">Login</h1></header>
        <form action="login" class="form" method="post">
            <div class="form_group"><input type="text" name="username" placeholder="Enter Your Username"
id="username" class="form_input" required
/></div>
            <div class="form_group"><input type="password" name="password" placeholder="Enter Your
Password" id="password" class="form_input" required
/></div><br>
            <button class="btn" type="submit">Login</button>
        </form>
        </div>
        <div class="note text-center">
            <p>Don't have an account?<a href="register">Register</a></p>
        </div>
        <div class="alert"><p><b>{{msg}}</b>
        </p>
        </div>
    </div>
    <script> window.watsonAssistantChatOptions = {
integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.
        region: "au-syd", // The region your integration is hosted in. serviceInstanceID: "9f2196de-4c2c-
        4b82-874b-9768ad3501e4", // 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>
</body>
</html>
```

REGISTER.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JOBPORTAL | LOGIN</title>
    <link rel="stylesheet" href="../static/css/reg.css">
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=Secular+One&display=swap" rel="stylesheet">
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> --
>
        <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-
32x32.png">
        <!-- bootstrap css cdn -->
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
        <!-- css stylesheet -->
      <link rel="stylesheet" href="../static/css/reg.css">
        <link rel="stylesheet" href="../static/css/style.css">
        <!-- font styles cdn -->
        <link rel="preconnect" href="https://fonts.gstatic.com">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=sw ap"
rel="stylesheet">
</head>
<body>

    <div class="main">
        <div class="user">
            <div class="logo"><img src="../static/img/goseek.png" alt="tie"
height="180px" width="180px"></div>
        <header class="user_header"><h1 class="user_title">Register</h1></header>
```

```html
    <form action="register" class="form" method="post">
        <div class="form_group"><input type="text" name="username" placeholder="Enter Your Username"
id="username" class="form_input" required
/></div>
        <div class="form_group"><input type="email" name="email"placeholder="Enter Your Email
ID" id="email" class="form_input" required/></div>
        <div class="form_group"><input type="password" name="password" placeholder="Enter Your
Password" id="password" class="form_input" required
/></div><br>
        <button class="btn" type="submit">Register</button>
    </form>
    </div>
    <div class="note text-center">
        <p>Already have an account? <a href="login">Login</a></p>
    </div>
    <div class="alert">
        <p><b>{{msg}}</b></p>
    </div>
    </div>
    <script> window.watsonAssistantChatOptions = {
        integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of thisintegration.
        region: "au-syd", // The region your integration is hosted in. serviceInstanceID: "9f2196de-4c2c-
        4b82-874b-9768ad3501e4", // 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>
</body>
</html>
```

HOME.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
```

```html
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JOBPORTAL | HOME</title>
    <meta charset="UTF-8">
    <!-- Compiled and minified CSS -->
    <link rel="stylesheet" href="../static/css/card.css">
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/css/materialize.min.c ss">

    <!-- Compiled and minified JavaScript -->
    <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/js/materialize.min.js">
</script>

    <!-- favicon -->
    <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
    <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> --
>
    <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-
32x32.png">
    <!-- bootstrap css cdn -->
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
    <!-- css stylesheet -->
    <link rel="stylesheet" href="../static/css/reg.css">
    <link rel="stylesheet" href="../static/css/style.css">
    <!-- font styles cdn -->
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font- awesome/6.2.1/css/all.css"
integrity="sha512- FA9cIbtlP61W0PRtX36P6CGRy0vZs0C2Uw26Q1cMmj3xwhftftymr0sj8/YeezDn
RwL9wtWw8ZwtCiTDXlXGjQ==" crossorigin="anonymous" referrerpolicy="no-referrer" />
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/6.2.1/css/all.min.css" integrity="sha512-
MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcn
K1OnMGCdVK+iQrJ7lzPJQd1w==" crossorigin="anonymous" referrerpolicy="no-referrer" />
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=sw ap"
rel="stylesheet">
</head>
<body>
    <!-- bootstrap navbar -->
```

```html
<nav class="navbar sticky-top navbar-expand-lg navbar-dark">
    <div class="container-fluid menu">
      <a class="main-logo-img mt-3" href="home"><img src="/static/img/goseek.png" alt="sheep-logo" height="180px" width="180px">
          <!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->
      </a>
      <div class="row donate-sponsor linker" style="text-align:center;">
        <a type="button" class="col-3 links" id="donate"href="login">LOGIN</a>
        <a type="button" class="col-3 links" id="sponsor"href="register">REGISTER</a>
      </div>
     </div>
   </nav>
   <!-- navbar ends -->
<div class="card-container">
     <div class="card">
       <div class="card-box">
       <div class="card-image waves-effect waves-block waves-light">
         <img class="activator" src="../static/img/startup.svg" height="85px"width="85px">
       </div>
       <div class="card-content">
         <span class="card-title activator grey-text text-darken-4 title-col">Mission </span>
       </div></div>
       <div class="card-reveal">
         <span class="card-title grey-text text-darken-4 title-col">Mission  <iclass="fa-solid fa-caret-down"></i></span>
         <p class="title-sub">GoSeek is an edTech organization with a vision to bridge the gap between academia & industry. Whether you are new to the workforce, are a seasoned professional, or somewhere in between, GoSeek's contributors will help you move the needle on your career and get the job you want faster than you think.Our outcome-based experiential learning programs on emerging technologies (Internet of Things, Machine Learning, Data Science, Artificial Intelligence, Robotics) are building skilled entry - level engineers, for thecorporate world.</p>
       </div>
     </div>
     <div class="card"> <div class="card-box">
       <div class="card-image waves-effect waves-block waves-light">
         <img class="activator" src="../static/img/vision.svg" height="85px"width="85px">
       </div>
       <div class="card-content">
         <span class="card-title activator grey-text text-darken-4 title-col">Vision
</span>
```

8. TESTING:

8.1 Test Cases:

Random Forest is an adaptable, simple-to-utilize AI calculation that produces,even without hyperboundary tuning, an incredible outcome more often than not. Itis likewise the most utilized calculation, in view of its effortlessness and variety (itvery well may be utilized for both order and relapse errands). In this post, we'll figure out how the arbitrary woodland calculation functions, how it contrasts withfromfromfromdifferent calculations, and how to utilize it and graphically represented in fig.

8.2 User Acceptance Testing:
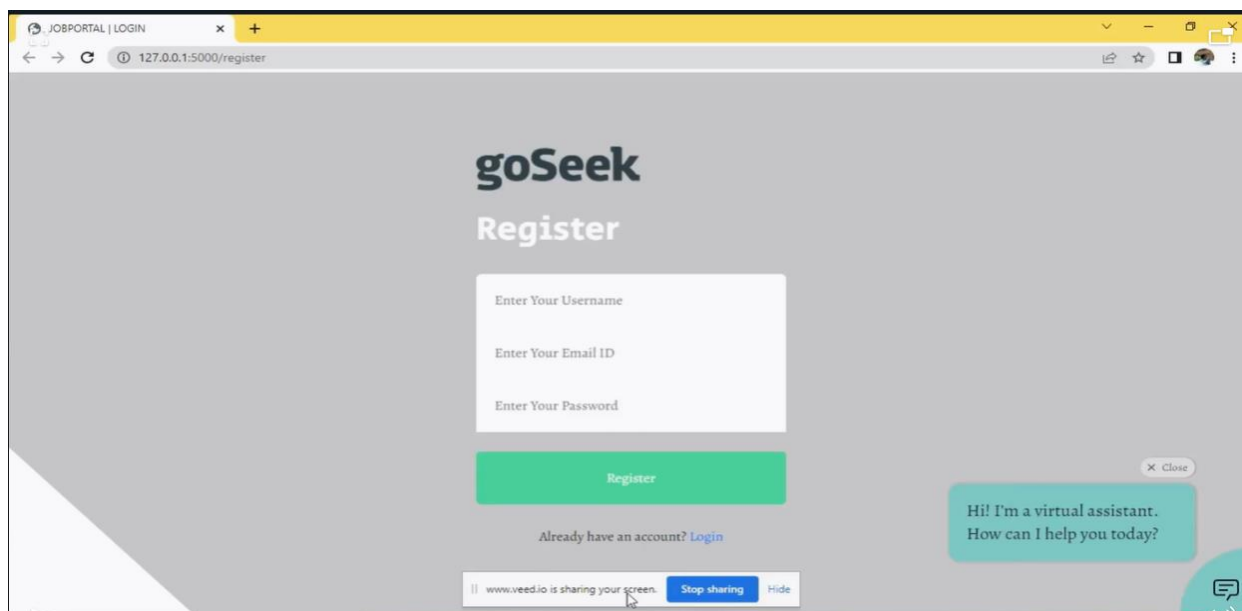
3. RESULTS

9.1 Performance Metrics

Metrics considered to test the strength of the algorithm are Mean Absolute Error, Mean Squared Error, and Root Mean Squared Error. These three metrics are used to evaluate both regression algorithms. The three metrics have lower values for Xgboost, hence it has higher accuracy over the random forest algorithm. Table1 shows the result analysis of both algorithms.

goSeek

LOG   REGISTER

About Us

Mission

GoSeek is an edTech organization with a vision to bridge the gap between academia & industry. Whether you are new to the workforce, are a seasoned professional, or somewhere in between, GoSeek's contributors will help you mov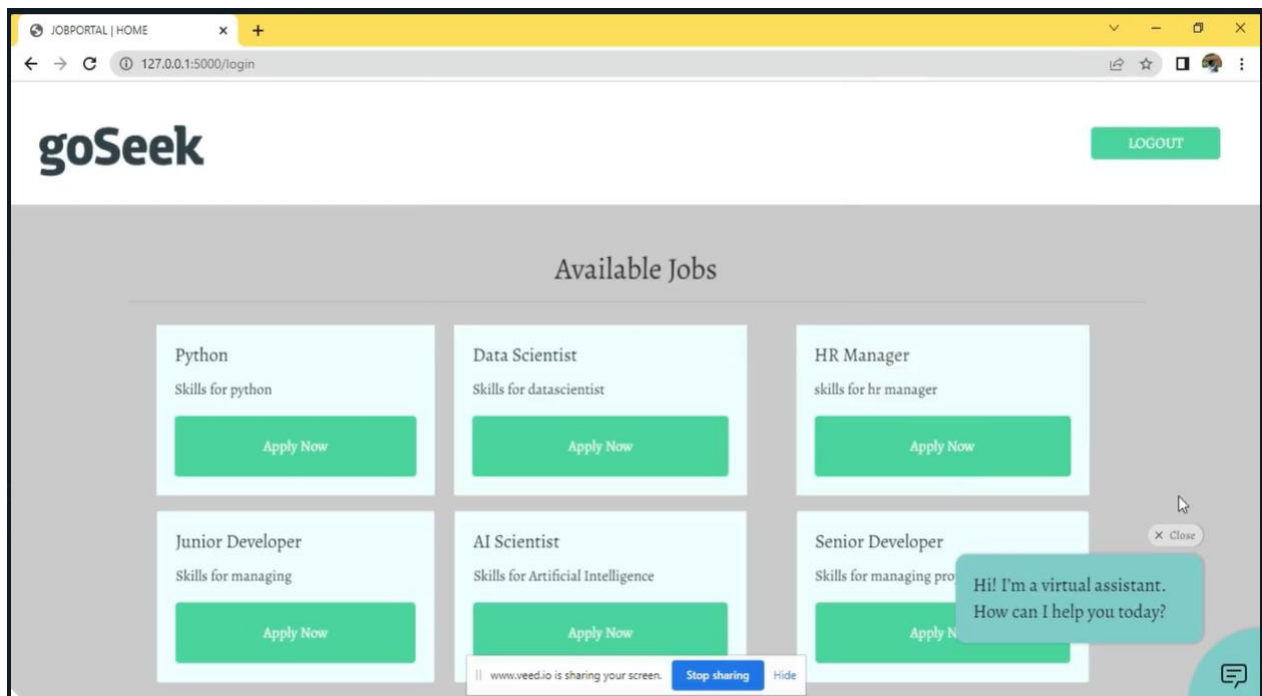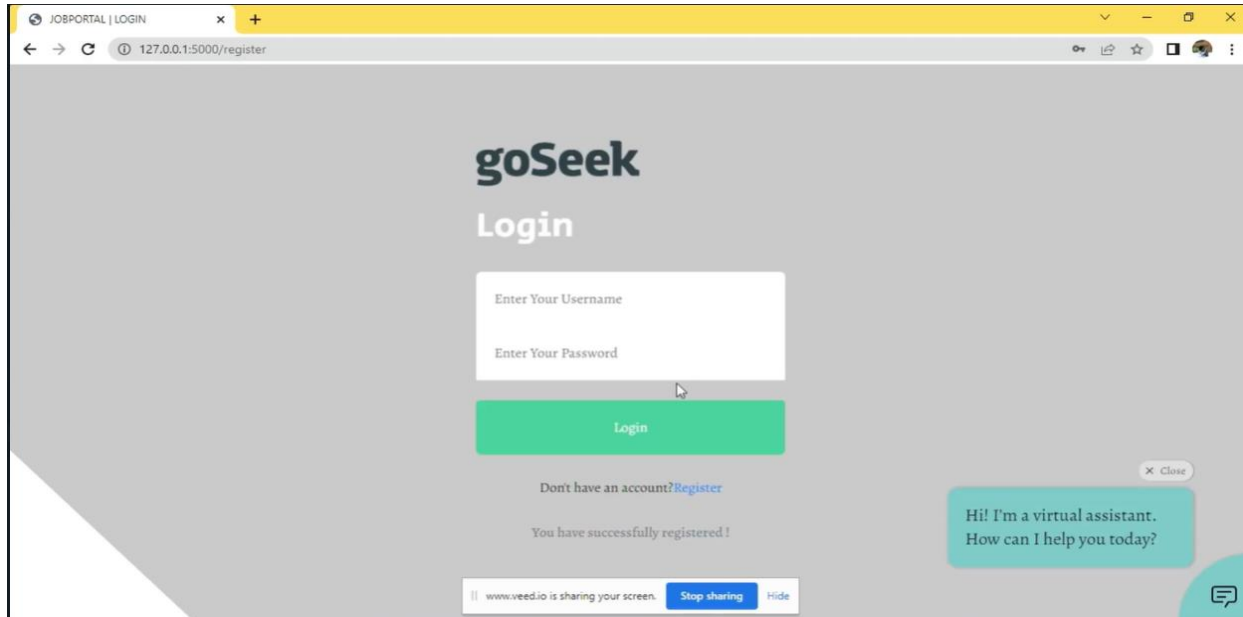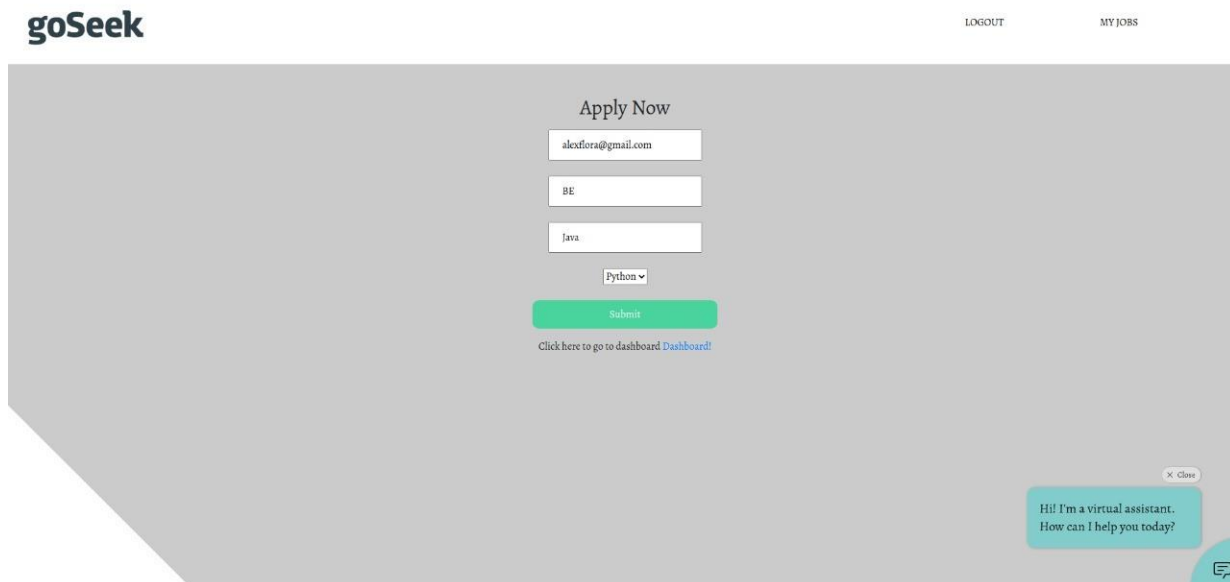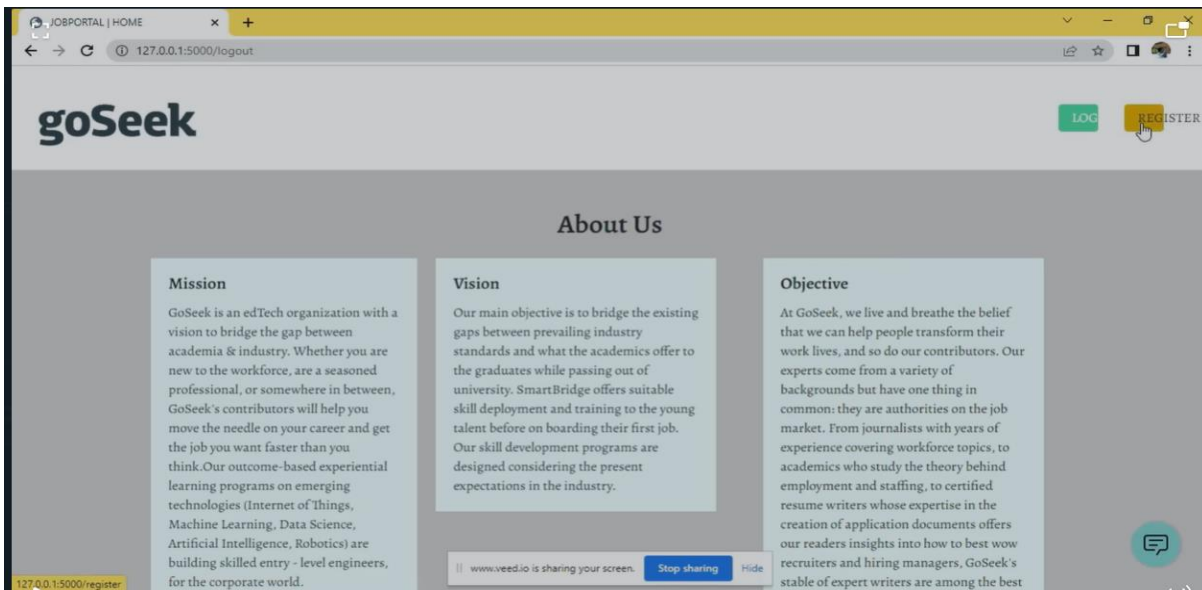e the needle on your career and get the job you want faster than you think.Our outcome-based experiential learning programs on emerging technologies (Internet of Things, Machine Learning, Data Science, Artificial Intelligence, Robotics) are building skilled entry - level engineers, for the corporate world.

Vision

Our main objective is to bridge the existing gaps between prevailing industry standards and what the academics offer to the graduates while passing out of university. SmartBridge offers suitable skill deployment and training to the young talent before on boarding their first job. Our skill development programs are designed considering the present expectations in the industry.

Objective

At GoSeek, we live and breathe the belief that we can help people transform their work lives, and so do our contributors. Our experts come from a variety of backgrounds but have one thing in common: they are authorities on the job market. From journalists with years of experience covering workforce topics, to academics who study the theory behind employment and staffing, to certified resume writers whose expertise in the creation of application documents offers our readers insights into how to best wow recruiters and hiring managers, GoSeek's stable of expert writers are among the best

---

goSeek

LOGOUT   MY JOBS

Apply Now

alexflora@gmail.com

BE

Java

Python

Submit

Click here to go to dashboard Dashboard!

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

4. ADVANTAGES & DISADVANTAGES

Advantages and Disadvantages of the Job Recommender System

- It assists with limiting the ideal opportunity for picking and choosing the items from online condition so without any problem.
- Decision-production processes are redesigned as a result of the recommender framework.
- It gives a way to users to get their customized proposal without burningthrough a great deal of time.
- It is utilized in such huge numbers of different areas, (for example, books, media, places of work, travel, games, eatery, and so forth.) to suggest to the clients.
- Job recommender framework gives a way for job seekers to get their relevant jobs and recruiters to get their skilled employees

5. CONCLUSION

Recommender framework encourages us to get what we need from the huge measure of data. It recommends the specific item instead of an overburden of information. As a domain of the recommender system, the Job recommender system provides opportunities for job seekers by suggesting relevant jobs to them. This framework is utilized by numerous organizations to recommend suitable jobs to job seekers. It additionally manages the issues of data over-burden. The recommender system gained popularity in recent years due to its success with a huge amount of data.

6. FUTURE SCOPE

We would like to expand the work by accomplishing more research on geo-area-based recommender framework by giving the applicants the close byareas. This can likewise assist them with tracking the organization areas as indicated by the recommendations.

7. APPENDIX

Source: https://github.com/IBM-EPBL/IBM-Project-25066-1659953230

Demo link :
https://drive.google.com/file/d/1zqNw6fDaQAe3IuLp6xdp2ezyKBQMZVpf/view?usp=share_link