SKILL/JOB RECOMMENDATION APPLICATION

PROJECT REPORT

UNDER THE GUIDANCE OF

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FACULTY MENTOR(S)NAME : **Sujeetha D**

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Tharun Kumar U	6113191031110

APPLICATION DOMAIN: Cloud App Development

COLLEGE NAME: Mahendra Engineering College

1.INTRODUCTION

1.1 PROJECT OVERVIEW

Nowadays, job search is a task commonly done on the Internet using job search engine sites like LinkedIn, 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.

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.

The remainder of this paper is organized as follows. We briefly describe the natural language processing methods we are used in our experimental setup. In Section 3 we present our proposal, including a new dataset collected by us and the framework for job recommendation.

1.2 PURPOSE

The purpose of the project is skill and job recommendation We started our journey by understanding the importance of a job recommendation system based on the skill set of the user. A system which can, not only recommend the job but also highlight the necessary skill set

needed for the recommended job, which helps the user to learn more on the skill set

2.LITERATURE SURVEY

2.1 EXISTING PROBLEM

Work is important for everyone to earn income. With the large number of new graduates each year, finding job vacancies is a problem for students who have just completed their studies in higher education because they still do not have work experience so they are required to look for jobs that really match their criteria. Applications made can recommend specific job vacancies for undergraduates from universities (undergraduates) with the K-Means Clustering method. Applications in the form of websites that become third parties for companies and applicants. This application is one of the means that can provide solutions to companies and applicants in finding workers or jobs using a recommendation system. The problem to be studied is how to apply the K-Means Clustering method to the job vacancy recommendation system. The recommendation system in this application will calculate the level of match of the applicant's main skills, salary, location, and other skills with the needs of the company. The stages of making a recommendation system are making system designs and designs which include context diagrams, DFD, ERD and interface design. built with PHP, Java, jQuery, JavaScript, HTML, and CSS. Program testing is done by black box testing method. Questionnaire testing is given to applicants, companies, and admins with elements of testing based on user satisfaction, user convenience and system quality, resulting in the conclusion that the system can run well by getting a percentage of 87.6%.

2.2 REFERENCE

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[2] Gomez-Uribe, C. A., & Hunt, N. (2016). The netflix recommender system: Algorithms, business value, and innovation. ACM Transactions on Management Information Systems (TMIS), 6(4), 13.

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[8] Jiang, M., Fang, Y., Xie, H., Chong, J., & Meng, M. (2019). User click prediction for personalized job recommendation. World Wide Web, 22(1), 325-345.

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(pp. 340-343).

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[11] Mikolov, T., Sutskever, I., Chen, K., Corrado, G. S., & Dean, J. (2013). Distributed representations of words and phrases and their compositionality. In Advances in neural information processing systems (pp. 3111-3119).

[12] Le, Q., & Mikolov, T. (2014, January). Distributed representations of sentences and documents. In International conference on machine learning (pp. 1188-1196).

[13] Zibriczky, D. (2016, September). A combination of simple models by forward predictor selection for job recommendation. In Proceedings of the Recommender Systems Challenge (p. 9). ACM.

[14] Volkovs, M., Yu, G. W., & Poutanen, T. (2017, August). Content-based neighbor models for cold start in recommender systems. In Proceedings of the Recommender Systems Challenge 2017 (p. 7). ACM.

2.3 PROBLEM STATEMENT DEFINITION

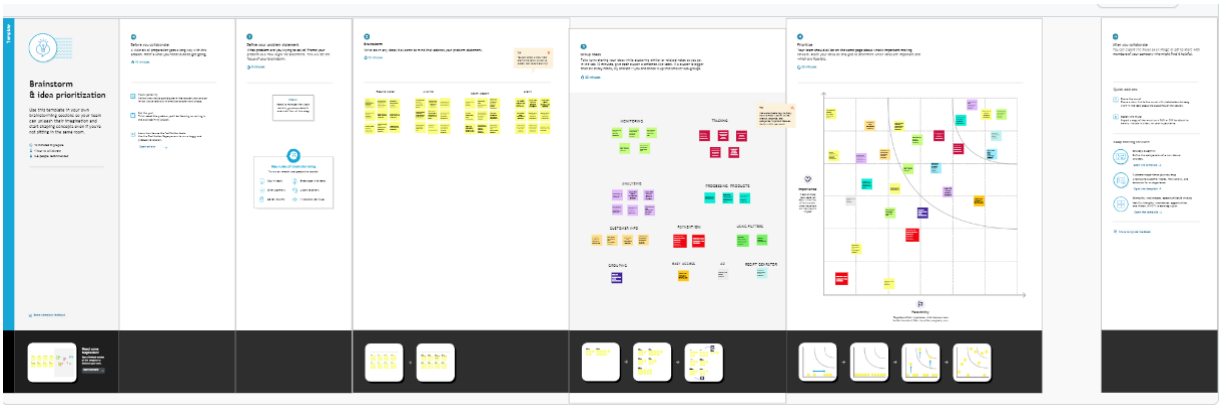
Create a problem statement to understand your customer’s point of view. The customer problem statement template helps you focus on what matters to create experience people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solutions for the challenges your customers face. Throughout the process, you’ll also be able to perceive your product or service.

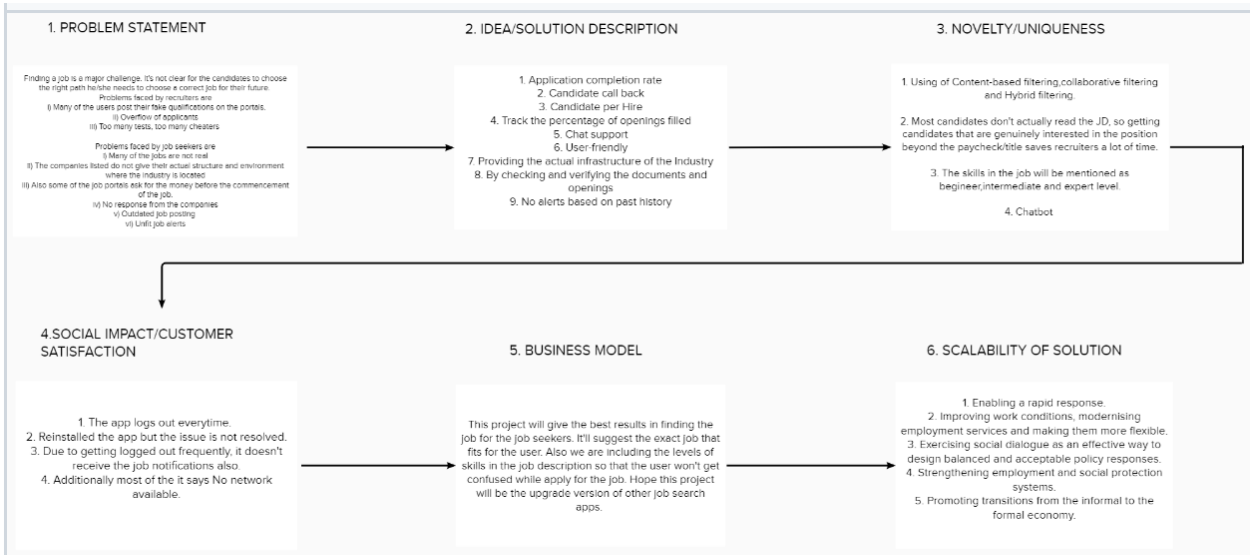
3. IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

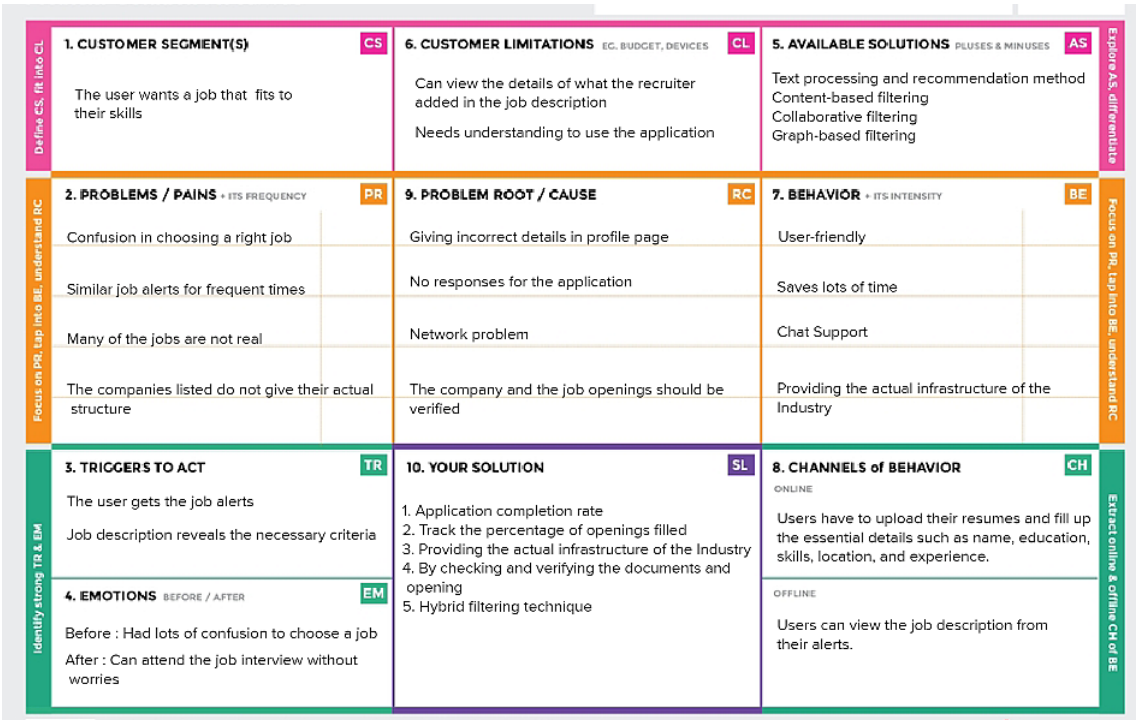
3.2 IDEATION & BRAINSTORMING



3.3 PROPOSED SYSTEM



3.4 PROBLEM SOLUTION FIT



4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via 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.

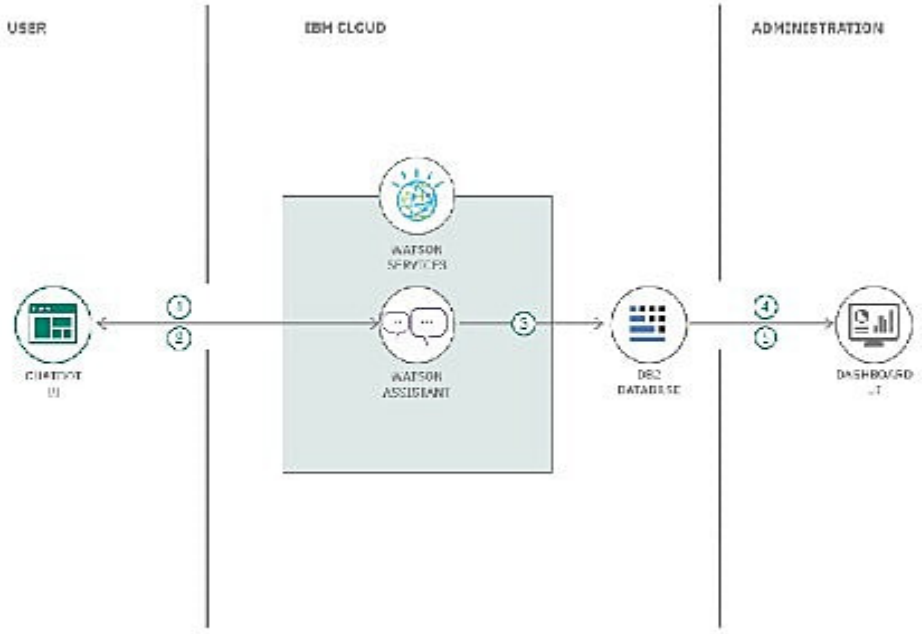
4.2 NON-FUNCTIONAL REQUIREMENTS

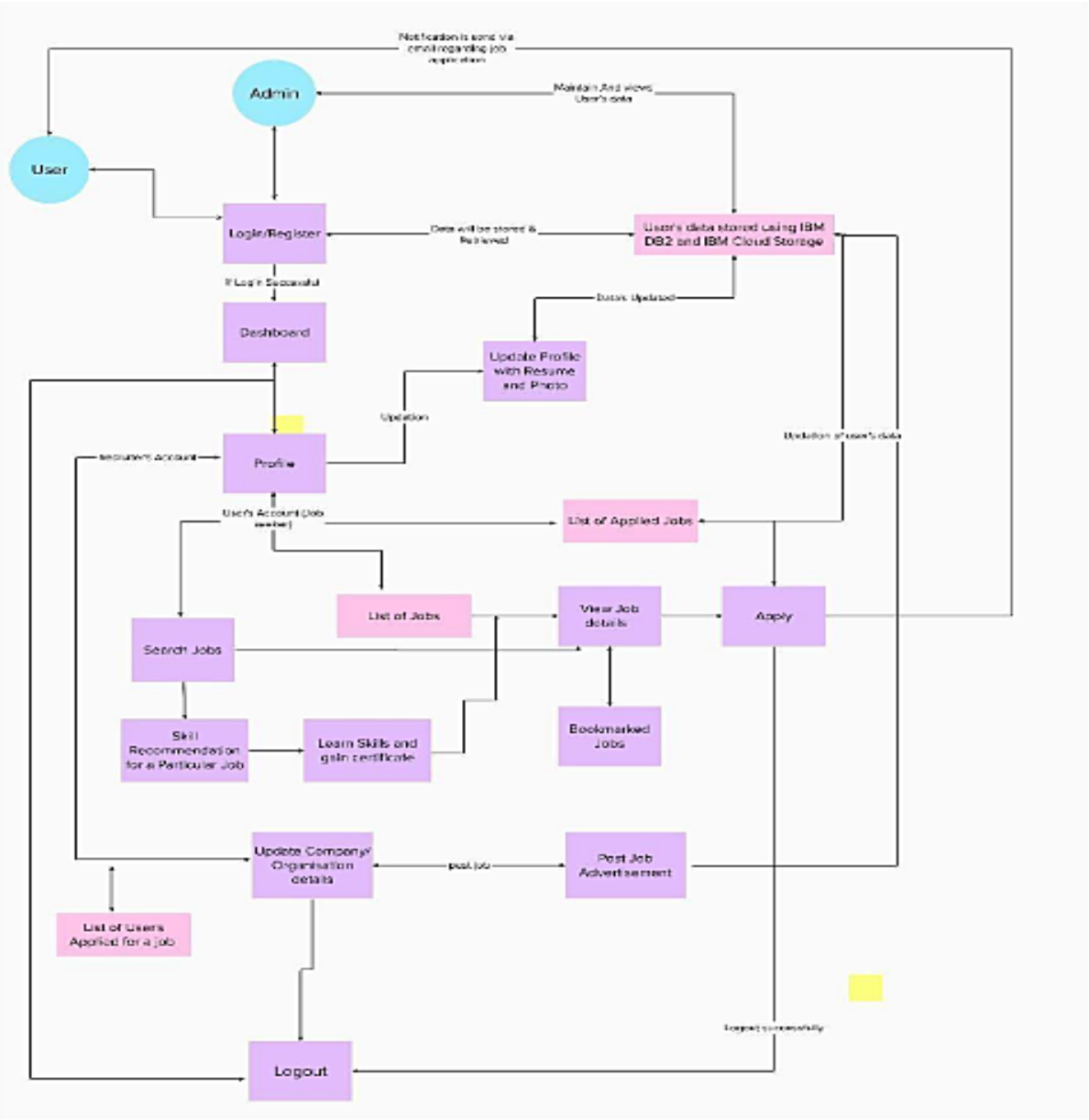
Following are the Non - functional requirements of the proposed solution.

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.

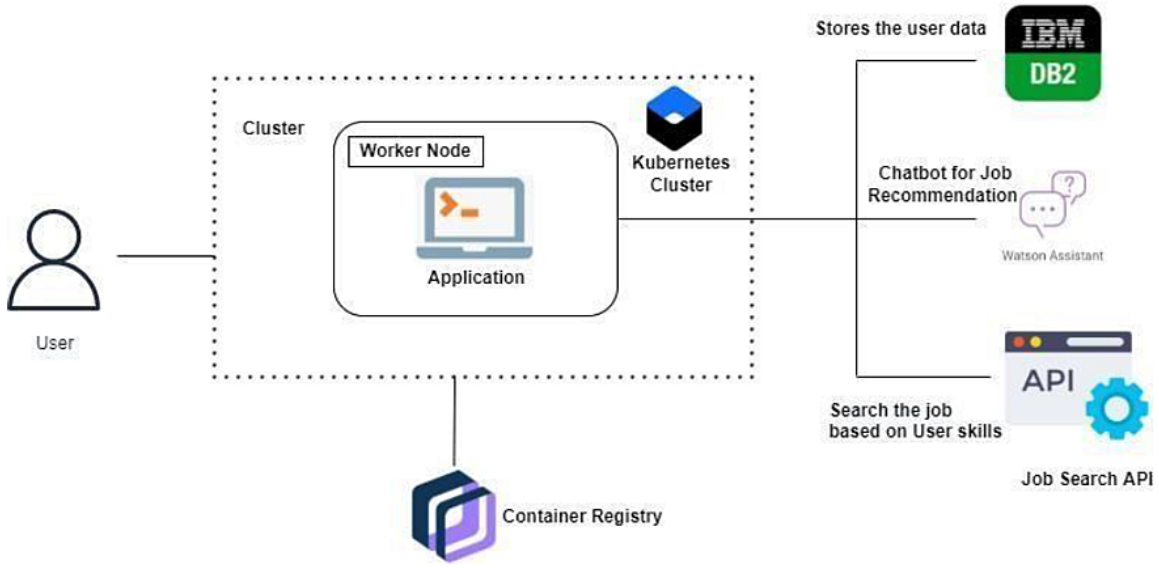
5. PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS




Notification is sent via email regarding job application
Admin
Maintain And views User's data
User
Login/Register
Data will be stored & Retrieved
User's data stored using IBM DB2 and IBM Cloud Storage
If Login Successful
Data's Updated
Dashboard
Update Profile with Resume and Photo
Updation
Updation of user's data
Profile
User's Account (Job seeker)
List of Applied Jobs
List of Jobs
View Job details
Apply
Search Jobs
Skill Recommendation for a Particular Job
Learn Skills and gain certificate
Bookmarked Jobs
Update Company/ Organisation details
post job
Post Job Advertisement
List of Users Applied for a job
Logout successfully
Logout

5.2 SOLUTION & TECHNICAL ARCHITECTURE



5.3 USER STORIES

Use the below template to list of the user stories foe the product.

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 online websites	I can register & access the dashboard with online website Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can receive confirmation Gmail & click confirm	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can receive confirmation email & click confirm	High	Sprint-1
	Dashboard					
Customer (Web user)		USN-6	As a user, I can able to take up the skill assessment and view the appropriate test score. Based on the skill sets I can able to get personalised job recommendations.	I can receive job recommendations	High	Sprint-1
Customer Care Executive		USN-7	As a customer care executive, we provide 24/7 chatbot support.	24/7 chatbot support	High	Sprint-1
Administrator		USN-8	As an administrator, I can able to view the progress and make required changes in the project	Deploy user specific and personalised job recommendations	High	Sprint-1

6.PROJECTS PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

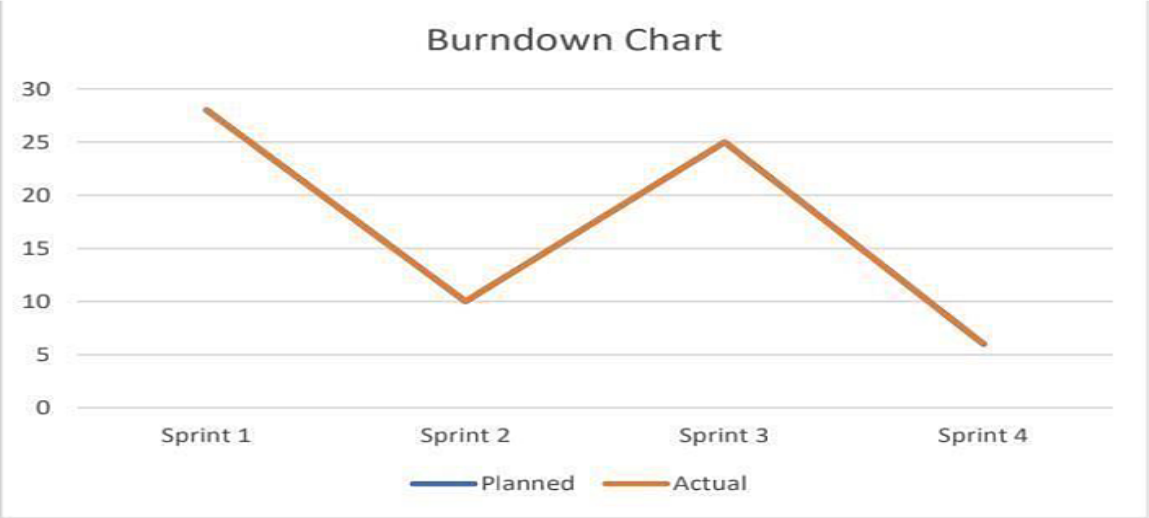
Sprint delivery planning:

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	vasanth
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	Prashanth,naveen
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	Naveen,thilak,gobinathan

6.2 SPRINT DELIVERY SCHEDULE:

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	25 Oct 2022	31 Oct 2022	20	31 Oct 2022
Sprint-2	20	6 Days	01 Nov 2022	06 Nov 2022	18	06 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	13 Nov 2022	20	13 Nov 2022
Sprint-4	20	6 Days	13 Nov 2022	19 Nov 2022	19	19 Nov 2022

6.3 REPORTS FROM JIRA



7.CODING & SOLUTIONING

7.1 FEATURE 1

In feature we implement admin and register modules using user and admin modules we register user are enter their details for login and register in feature one we can explore the data we collected dataset for train the model we designed HTML page design for recomment the job as per their skill and solutions We login the details enter into job portal for assign the details and we can give job alert we can to users

html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <!-- Design by foolishdeveloper.com -->
    <title>job and skill</title>
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css">
    <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@300;500;600&display=swap" rel="stylesheet">
    <!--Stylesheet-->
    <link rel="stylesheet" href="{{ url_for('static', filename='css/login.css') }}"  />
</head>
<body>
    <div class="background">
        <div class="shape"></div>
        <div class="shape"></div>
    </div>
    <form id="form1" runat="server" method="post"  action="/userlogin">
        <h3>Login Here</h3>
```

```
        <label for="username">Username</label>
        <input type="text" placeholder="user name" name="uname" id="username">

        <label for="password">Password</label>
        <input type="password" placeholder="Password" name="password" id="password">

        <button>Log In</button>
        <div class="social">
          <div class="go"><a href="/NewUser"> Register</a></div>
          <div class="fb"><a href="/alogin" > Admin </a></div>
        </div>
    </form>
</body>
</html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head>
   <title>job search</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta charset="utf-8">
<meta name="keywords" content="Cat Club Responsive web template, Bootstrap Web Templates, Flat Web Templates, Android Compatible web template,
```

Smartphone Compatible web template, free webdesigns for Nokia, Samsung, LG, SonyEricsson, Motorola web design" />

<script type="application/x-javascript"> addEventListener("load", function() { setTimeout(hideURLbar, 0); }, false); function hideURLbar(){ window.scrollTo(0,1); } </script>

<link href='//fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='static/css'>

<link href="//fonts.googleapis.com/css?family=Raleway:100,100i,200,200i,300,300i,400,400i,500,500i,600,600i,700,700i,800,800i,900,900i" rel="stylesheet">

<link href='//fonts.googleapis.com/css?family=Roboto+Condensed:400,700italic,700,400italic,300italic,300' rel='stylesheet' type='static/static/text/css'>

<script src="static/js/jquery-1.11.1.min.js"></script>

<script src="static/js/bootstrap.js"></script>

<script type="text/javascript">

jQuery(document).ready(function ($) {

$(".scroll").click(function (event) {

event.preventDefault();

$('html,body').animate({ scrollTop: $(this.hash).offset().top }, 1000);

});

});

</script>

<script src="https://kit.fontawesome.com/a076d05399.js" crossorigin="anonymous"></script>

```
<style>
   a{
      text-decoration: none;
      color: black;
   }
   nav{
      background: grey;
      height: 80px;
      width: 100%;
   }
  nav ul{
      float: right;
     margin-right: 20px;
   }
   nav ul li{
      display: inline-block;
      line-height: 60px;
      margin: 0 5px;
   }
   nav ul li a{
      color: white;
```

```
    font-size: 17px;
    padding: 7px 13px;
    border-radius: 3px;
    text-transform: uppercase;
}
a.active,a:hover{
    background: #1b9bff;
    transition: .5s;
}
 .checkbtn{
    font-size: 30px;
    color: white;
    float: right;
    line-height: 80px;
    margin-right: 40px;
    cursor: pointer;
    display: none;
}
#check{
    display: none
}
```

```
@media (max-width: 952px){
    nav ul li a{
        font-size: 16px;
    }
}
@media (max-width: 858px){
    .checkbtn{
        display: block;
    }
    ul{
        position: fixed;
        width: 100%;
        height: 100vh;
        background: #2c3e50;
        top: 80px;
        left: -100%;
        text-align: center;
        transition: all .5s;
    }
    nav ul li{
        display: block;
```

```
            margin: 50px 0;
            line-height: 30px
        }
        nav ul li a{
            font-size: 20px;
        }
        a:hover,a.active{
            background: none;
            color: #0082e6;
        }
        #checkchecked ~ ul{
            left: 0;
        }
      }
   </style>
   </head>
<body style="background-color: #080710; color: white;">
<h1 align= 'center'>
                                        <a style="color: white; " href="/">JOB
SEARCH</a>
                                    </h1>
   <nav>  <input type="checkbox" id="check" >
```

```
    <label for="check" class="checkbtn">
    <i class="fas fa-bars"></i></label>
    <ul>
    <li><a href="/">Home</a></li>
    <li><a href="/adminlogin">Admin Login</a></li>
    <li><a href="/UserLogin">User Login</a></li>
    <li><a href="/RNewUser">New User</a></li>
    </ul> </nav>
     <form id="form" name="form" method="post" action="/RNewUser">
        <div align="center" ><h2>  <strong>New User Registration</strong>  </h2> </div>
         <table width="35%" border="0" align="center">
  <tr>
      <td></td>
  </tr>
  <tr>
    <td width="45%" height="48">Name</td>
    <td width="55%"><input name="name" type="text" id="name"  required pattern="[A-Za-z
]{3,32}"/>
    </td>
  </tr>
  <tr>
    <td height="50">Gender</td>
```

```
  <td><input name="gender" type="radio" value="male" required />
    Male
      <input name="gender" type="radio" value="female" />
      Female</td>
  </tr>
  <tr>
    <td height="49">Age</td>
    <td>
      <input name="age" type="text" id="age" required size="3" />
    </td>
  </tr>
  <tr>
    <td height="48">Email Id</td>
    <td><input name="email" type="email" id="email" required /></td>
  </tr>
        <tr>
    <td height="46">Phone Number </td>
    <td><input name="phone" type="text" id="phone"   required size="10" pattern="[0-
9]{10}"/></td>
  </tr>
         <tr>
    <td height="50">Address</td>
```

```
    <td><textarea name="address" id="address" required></textarea></td>
     </tr>
   <tr>
    <td height="40">User Name</td>
    <td><input name="uname" type="text" id="uname"  required/></td>
   </tr>
   <tr>
    <td height="53">Passwrod</td>
    <td><input name="psw" type="password" id="psw"  required/></td>
   </tr>
       <tr>
    <td height="72"> </td>
    <td><input name="btn" type="submit" id="btn" value="Submit" />
    <input type="reset" name="Submit2" value="Reset" /></td>
   </tr>
  </table>
         </form>
    <!-- copyright -->
        <div class="copyright">
            <div class="container">
                <p>©  All rights reserved | Design by <a href="#">JOB AND SKILL</a></p>
```

```
            </div>
        </div>
        <!-- //copyright -->
        <script src="static/js/responsiveslides.min.js"></script>
        <script src="static/js/SmoothScroll.min.js"></script>
<script type="text/javascript" src="static/js/move-top.js"></script>
<script type="text/javascript" src="static/js/easing.js"></script>
        <!-- here stars scrolling icon -->
        <script type="text/javascript">
            $(document).ready(function () {
                /*
                var defaults = {
                containerID: 'toTop', // fading element id
                containerHoverID: 'toTopHover', // fading element hover id
                scrollSpeed: 1200,
                easingType: 'linear'
                };
                */
                  $().UItoTop({ easingType: 'easeOutQuart' });
            });
        </script>
```

<!-- //here ends scrolling icon -->

</body>

</html>

7.2 FEATURE 2

In feature 2 after applying the job the alert message give to user with correspong email alert Finally, you’re ready to write. Keep in mind that a good analysis should
facilitate its own interpretation as much as possible. Again, this requires anticipating what information your likely audience will be seeking and what knowledge they’re coming in with already. One method which is both tried-and-true and friendly to the academic nature of the discipline is following a template for your analysis. With that, this section covers the structure which when fleshed out will help you tell the story in the data.

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<title>job search</title>

<meta name="viewport" content="width=device-width, initial-scale=1">

<meta charset="utf-8">

<meta name="keywords" content="Cat Club Responsive web template, Bootstrap Web Templates, Flat Web Templates, Android Compatible web template,

Smartphone Compatible web template, free webdesigns for Nokia, Samsung, LG, SonyEricsson, Motorola web design" />

<script type="application/x-javascript"> addEventListener("load", function() {

```
setTimeout(hideURLbar, 0); }, false); function hideURLbar(){ window.scrollTo(0,1); } </script>

<link href='//fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='static/css'>

<link
href="//fonts.googleapis.com/css?family=Raleway:100,100i,200,200i,300,300i,400,400i,500,500i,600,600i,700,700i,800,800i,900,900i" rel="stylesheet">

<link
href='//fonts.googleapis.com/css?family=Roboto+Condensed:400,700italic,700,400italic,300italic,300' rel='stylesheet' type='static/static/text/css'>

<script src="static/js/jquery-1.11.1.min.js"></script>

<script src="static/js/bootstrap.js"></script>

<script type="text/javascript">
    jQuery(document).ready(function ($) {
        $(".scroll").click(function (event) {
            event.preventDefault();
            $('html,body').animate({ scrollTop: $(this.hash).offset().top }, 1000);
        });
    });
</script>
    <script src="https://kit.fontawesome.com/a076d05399.js" crossorigin="anonymous"></script>
    <style>
        a{
            text-decoration: none;
```

```
    color: black;
  }
  nav{
    background: grey;
    height: 80px;
    width: 100%;
  }
nav ul{
    float: right;
   margin-right: 20px;
  }
  nav ul li{
    display: inline-block;
    line-height: 60px;
    margin: 0 5px;

  }
  nav ul li a{
    color: white;
    font-size: 17px;
    padding: 7px 13px;
```

```
    border-radius: 3px;
    text-transform: uppercase;
}
a.active,a:hover{
    background: #1b9bff;
    transition: .5s;
}
.checkbtn{
    font-size: 30px;
    color: white;
    float: right;
    line-height: 80px;
    margin-right: 40px;
    cursor: pointer;
    display: none;
}
#check{
    display: none
}
@media (max-width: 952px){
    nav ul li a{
```

```
        font-size: 16px;
    }
}
@media (max-width: 858px){
    .checkbtn{
        display: block;
    }
    ul{
        position: fixed;
        width: 100%;
        height: 100vh;
        background: #2c3e50;
        top: 80px;
        left: -100%;
        text-align: center;
        transition: all .5s;
    }
    nav ul li{
        display: block;
        margin: 50px 0;
        line-height: 30px
```

```
        }
        nav ul li a{
            font-size: 20px;
        }
        a:hover,a.active{
            background: none;
            color: #0082e6;
        }
        #checkchecked ~ ul{
            left: 0;
        } }
    </style>
    </head>
<body style="background-color: #080710; color: white;">
<h1 align= 'center'>
                                                <a style="color: white; " href="/">JOB
SEARCH</a>
                                            </h1>
    <nav>  <input type="checkbox" id="check" >
        <label for="check" class="checkbtn">
        <i class="fas fa-bars"></i></label>
        <ul>
```

```
<li><a href="/">Home</a></li>
<li><a href="/adminlogin">Admin Login</a></li>
<li><a href="/UserLogin">User Login</a></li>
<li><a href="/RNewUser">New User</a></li>
</ul> </nav>
      <form id="form" name="form" method="post" action="/RNewUser">
         <div align="center" ><h2>  <strong>New User Registration</strong>  </h2> </div>
          <table width="35%" border="0" align="center">
  <tr>
       <td></td>
  </tr>
  <tr>
    <td width="45%" height="48">Name</td>
    <td width="55%"><input name="name" type="text" id="name"  required pattern="[A-Za-z
]{3,32}"/>
    </td>
  </tr>
  <tr>
    <td height="50">Gender</td>
    <td><input name="gender" type="radio" value="male" required />
      Male
```

```
        <input name="gender" type="radio" value="female" />
        Female</td>
    </tr>
    <tr>
      <td height="49">Age</td>
      <td>
        <input name="age" type="text" id="age" required size="3" />
      </td>
    </tr>
    <tr>
      <td height="48">Email Id</td>
      <td><input name="email" type="email" id="email" required /></td>
    </tr>
          <tr>
      <td height="46">Phone Number </td>
      <td><input name="phone" type="text" id="phone"   required size="10" pattern="[0-9]{10}"/></td>
    </tr>
           <tr>
      <td height="50">Address</td>
      <td><textarea name="address" id="address" required></textarea></td>
       </tr>
```

```
  <tr>
    <td height="40">User Name</td>
    <td><input name="uname" type="text" id="uname"  required/></td>
  </tr>
  <tr>
   <td height="53">Passwrod</td>
    <td><input name="psw" type="password" id="psw"  required/></td>
  </tr>
      <tr>
    <td height="72"> </td>
    <td><input name="btn" type="submit" id="btn" value="Submit" />
    <input type="reset" name="Submit2" value="Reset" /></td>
  </tr>
</table>
        </form>
    <!-- copyright -->
        <div class="copyright">
            <div class="container">
                <p>©  All rights reserved | Design by <a href="#">JOB AND SKILL</a></p>
            </div>
        </div>
```

```
        <!-- //copyright -->
        <script src="static/js/responsiveslides.min.js"></script>
        <script src="static/js/SmoothScroll.min.js"></script>
<script type="text/javascript" src="static/js/move-top.js"></script>
<script type="text/javascript" src="static/js/easing.js"></script>
        <!-- here stars scrolling icon -->
        <script type="text/javascript">
            $(document).ready(function () {
                /*
                var defaults = {
                containerID: 'toTop', // fading element id
                containerHoverID: 'toTopHover', // fading element hover id
                scrollSpeed: 1200,
                easingType: 'linear' };
                */
                $().UItoTop({ easingType: 'easeOutQuart' });
            });
        </script>
<!-- //here ends scrolling icon -->
</body>
</html>
```

7.3 DATABASE SCHEMA

```
from flask import Flask, render_template, request, jsonify, session
import datetime
import re
import ibm_db
import pandas
import ibm_db_dbi
from sqlalchemy import create_engine
engine = create_engine('sqlite://',
                       echo = False)
dsn_hostname = "b1bc1829-6f45-4cd4-bef4-
10cf081900bf.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud"
dsn_uid = "bgx86936"
dsn_pwd = "LDBdZPnYhnaBy1iv"
dsn_driver = "{IBM DB2 ODBC DRIVER}"
dsn_database = "bludb"
dsn_port = "32304"
dsn_protocol = "TCPIP"
dsn_security = "SSL"
dsn = (
    "DRIVER={0};"
```

```
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
    "SECURITY={7};").format(dsn_driver, dsn_database, dsn_hostname, dsn_port, dsn_protocol,
dsn_uid, dsn_pwd,dsn_security)
try:
    conn = ibm_db.connect(dsn, "", "")
    print ("Connected to database: ", dsn_database, "as user: ", dsn_uid, "on host: ",
dsn_hostname)
except:
    print ("Unable to connect: ", ibm_db.conn_errormsg() )
app = Flask(__name__)
app.config.from_object(__name__)
app.config['SECRET_KEY'] = '7d441f27d441f27567d441f2b6176a'
@app.route("/")
def homepage():
    return render_template('UserLogin.html')
@app.route("/alogin")
def alogin():
```

```
    return render_template('AdminLogin.html')
@app.route("/AdminHome")
def AdminHome():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * from regtb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    data = engine.execute("SELECT * FROM Employee_Data").fetchall()
    return render_template('AdminHome.html', data=data)
@app.route("/NewProduct")
def NewProduct():
    return render_template('NewProduct.html')
@app.route("/ProductInfo")
def ProductInfo():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * from protb "
```

```
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductInfo.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/SalesInfo")
def SalesInfo():
    return render_template('SalesInfo.html')
@app.route("/Search")
def Search():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * from protb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
```

```
    return render_template('ViewProduct.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())

@app.route("/viewproduct", methods=['GET', 'POST'])

def viewproduct():

    searc = request.form['subcat']

    conn = ibm_db.connect(dsn, "", "")

    pd_conn = ibm_db_dbi.Connection(conn)

    selectQuery =  "SELECT * from protb where SubCategory like '%" + searc + "%' "

    dataframe = pandas.read_sql(selectQuery, pd_conn)

    dataframe.to_sql('Employee_Data',

                     con=engine,

                     if_exists='append')

    # run a sql query

    print(engine.execute("SELECT * FROM Employee_Data").fetchall())

    return render_template('ViewProduct.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())

@app.route("/NewUser")

def NewUser():

    return render_template('NewUser.html')

@app.route("/Newjob")

def Newjob():

    return render_template('index.html')
```

```
@app.route("/RNewUser", methods=['GET', 'POST'])
def RNewUser():
    if request.method == 'POST':
        name1 = request.form['name']
        gender1 = request.form['gender']
        Age = request.form['age']
        email = request.form['email']
        address = request.form['address']
        pnumber = request.form['phone']
        uname = request.form['uname']
        password = request.form['psw']
        conn = ibm_db.connect(dsn, "", "")
        insertQuery = "INSERT INTO regtb VALUES ('" + name1 + "','" + gender1 + "','" + Age + "','" + email + "','" + pnumber + "','" + address + "','" + uname + "','" + password + "')"
        insert_table = ibm_db.exec_immediate (conn, insertQuery)
        print(insert_table)
    return render_template('userlogin.html')
@app.route("/RNewProduct", methods=['GET', 'POST'])
def RNewProduct():
    if request.method == 'POST':
        file = request.files['fileupload']
        file.save("static/upload/" + file.filename)
```

```
        ProductId =request.form['pid']
        Gender =request.form['gender']
        Category =request.form['cat']
        SubCategory=request.form['subcat']
        ProductType=request.form['ptype']
        Colour=request.form['color']
        Usage=request.form['usage']
        ProductTitle=request.form['ptitle']
        price = request.form['price']
        Image= file.filename
        ImageURL="static/upload/" + file.filename
        conn = ibm_db.connect(dsn, "", "")
        insertQuery = "INSERT INTO protb VALUES ('"+ ProductId +"','" + Gender + "','" + Category + "','" + SubCategory + "','" + ProductType + "','" + Colour + "','"+Usage +"','"+ProductTitle+"','"+ Image +"','"+ ImageURL +"','"+ price +"')"
        insert_table = ibm_db.exec_immediate(conn, insertQuery)
        data1 = 'Record Saved!'
        return render_template('goback.html', data=data1)
@app.route("/userlogin", methods=['GET', 'POST'])
def userlogin():
    error = None
    if request.method == 'POST':
```

```
        username = request.form['uname']
        password = request.form['password']
        session['uname'] = request.form['uname']
        conn = ibm_db.connect(dsn, "", "")
        pd_conn = ibm_db_dbi.Connection(conn)
        selectQuery = "SELECT * from regtb where uname='" + username + "' and password='" +
password + "'"
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        if dataframe.empty:
            data1 = 'Username or Password is wrong'
            return render_template('goback.html', data=data1)
        else:
            print("Login")
            selectQuery = "SELECT * from regtb where uname='" + username + "' and password='"
+ password + "'"
            dataframe = pandas.read_sql(selectQuery, pd_conn)
            dataframe.to_sql('Employee_Data',
                             con=engine,
                             if_exists='append')
            # run a sql query
            print(engine.execute("SELECT * FROM Employee_Data").fetchall())
            return render_template('index.html', data=engine.execute("SELECT * FROM
```

```
Employee_Data").fetchall())

@app.route("/adminlogin", methods=['GET', 'POST'])

def adminlogin():

    error = None

    if request.method == 'POST':

        username = request.form['uname']

        password = request.form['password']

        conn = ibm_db.connect(dsn, "", "")

        pd_conn = ibm_db_dbi.Connection(conn)

        selectQuery = "SELECT * from admintb where USERNAME='" + username + "' and
PASSWORD='" + password + "'"

        dataframe = pandas.read_sql(selectQuery, pd_conn)

        if dataframe.empty:

            data1 = 'Username or Password is wrong'

            return render_template('goback.html', data=data1)

        else:

            print("Login")

            selectQuery = "SELECT * from regtb "

            dataframe = pandas.read_sql(selectQuery, pd_conn)

            dataframe.to_sql('Employee_Data', con=engine,if_exists='append')

            # run a sql query

            print(engine.execute("SELECT * FROM Employee_Data").fetchall())
```

```
        return render_template('AdminHome.html', data=engine.execute("SELECT * FROM Employee_Data").fetchall())

@app.route("/Remove", methods=['GET'])
def Remove():
    pid = request.args.get('id')
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    insertQuery = "Delete from protb  where id="'+ pid +'""
    insert_table = ibm_db.exec_immediate(conn, insertQuery)
    selectQuery = "SELECT * from protb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductInfo.html', data=engine.execute("SELECT * FROM Employee_Data").fetchall())
@app.route("/fullInfo")
def fullInfo():
    pid = request.args.get('pid')
    session['pid'] = pid
```

```
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM protb where ProductId='" + pid + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductFullInfo.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/Book", methods=['GET', 'POST'])
def Book():
    if request.method == 'POST':
        uname = session['uname']
        pid = session['pid']
        qty = request.form['qty']
        ctype = request.form['ctype']
        cardno = request.form['cardno']
        cvno = request.form['cvno']
        Bookingid = ''
        ProductName =''
```

```
UserName= uname

Mobile="

Email="

Qty = qty

Amount="

CardType = ctype

CardNo = cardno

CvNo = cvno

date = datetime.datetime.now().strftime('%d-%b-%Y')

conn = ibm_db.connect(dsn, "", "")

pd_conn = ibm_db_dbi.Connection(conn)

selectQuery = "SELECT * FROM protb where ProductId='" + pid + "' "

dataframe = pandas.read_sql(selectQuery, pd_conn)

dataframe.to_sql('Employee_Data',con=engine,if_exists='append')

data = engine.execute("SELECT * FROM Employee_Data").fetchall()

for item in data:

    ProductName = item[8]

    price = item[11]

    print(price)

    Amount = float(price) * float(Qty)

    print(Amount)
```

```
selectQuery1 ="SELECT  *  FROM  regtb where  uame='" + uname + "'"
dataframe = pandas.read_sql(selectQuery1, pd_conn)
dataframe.to_sql('regtb', con=engine, if_exists='append')
data1 = engine.execute("SELECT * FROM regtb").fetchall()
for item1 in data1:
   Mobile = item1[5]
   Email = item1[4]
selectQuery = "SELECT  *  FROM  booktb"
dataframe = pandas.read_sql(selectQuery, pd_conn)
dataframe.to_sql('booktb', con=engine, if_exists='append')
data2 = engine.execute("SELECT * FROM booktb").fetchall()
count = 0
for item in data2:
   count+=1
Bookingid="BOOKID00" + str(count)
insertQuery = "INSERT INTO booktb VALUES ('" + Bookingid + "','"+ ProductName +"','" + price + "','" + uname + "','" + Mobile + "','" + Email + "','" + str(Qty) + "','" + str(Amount) + "','"+ str(CardType) +"','"+ str(CardNo) +"','"+ str(CvNo) +"','"+ str(date) +"')"
insert_table = ibm_db.exec_immediate(conn, insertQuery)
sendmsg(Email,"order received delivery in one week ")
selectQuery = "SELECT * FROM booktb where  uname= '" + uname + "' "
dataframe = pandas.read_sql(selectQuery, pd_conn)
```

```
        dataframe.to_sql('booktb1', con=engine, if_exists='append')
        data = engine.execute("SELECT * FROM booktb1").fetchall()
        return render_template('UOrderInfo.html', data=data)
def sendmsg(Mailid,message):
    import smtplib
    from email.mime.multipart import MIMEMultipart
    from email.mime.text import MIMEText
    from email.mime.base import MIMEBase
    from email import encoders
    fromaddr = "sampletest685@gmail.com"
    toaddr = Mailid
    # instance of MIMEMultipart
    msg = MIMEMultipart()
    # storing the senders email address
    msg['From'] = fromaddr
    # storing the receivers email address
    msg['To'] = toaddr
    # storing the subject
    msg['Subject'] = "Alert"
    # string to store the body of the mail
    body = message
```

```
    # attach the body with the msg instance
    msg.attach(MIMEText(body, 'plain'))
    # creates SMTP session
    s = smtplib.SMTP('smtp.gmail.com', 587)
    # start TLS for security
    s.starttls()
    # Authentication
    s.login(fromaddr, "hneucvnontsuwgpj")
    # Converts the Multipart msg into a string
    text = msg.as_string()
    # sending the mail
    s.sendmail(fromaddr, toaddr, text)
    # terminating the session
    s.quit()
@app.route("/UOrderInfo")
def UOrderInfo():
    uname = session['uname']
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM booktb where uname= '" + uname + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
```

```
    dataframe.to_sql('booktb1', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb1").fetchall()
    return render_template('UOrderInfo.html', data=data)
@app.route("/UserHome")
def UserHome():
    uname = session['uname']
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM regtb where  uname= '" + uname + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb1', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb1").fetchall()
    return render_template('UserHome.html', data=data)
@app.route("/ASalesInfo")
def ASalesInfo():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM booktb  "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb").fetchall()
```

```
    return render_template('ASalesInfo.html', data=data)
def main():
    app.run(debug=True, use_reloader=True)
@app.route("/UReviewInfo")
def ureview():
    return render_template('NewReview.html')
if __name__ == '__main__':
    main()
```

8.TESTING

8.1 TEST CASES

8.1.1 Unit testing

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

8.1.2 Integration testing

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

8.1.3 Functional test

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals. Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

8.1.4 System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration-oriented system integration test. System testing is based on process descriptions

and flows, emphasizing pre-driven process links and integration points.

8.1.5 White Box Testing

White Box Testing is a testing in which in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is purpose. It is used to test areas that cannot be reached from a black box level.

8.1.6 Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box .you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

8.2 USER ACCEPTANCE TESTING

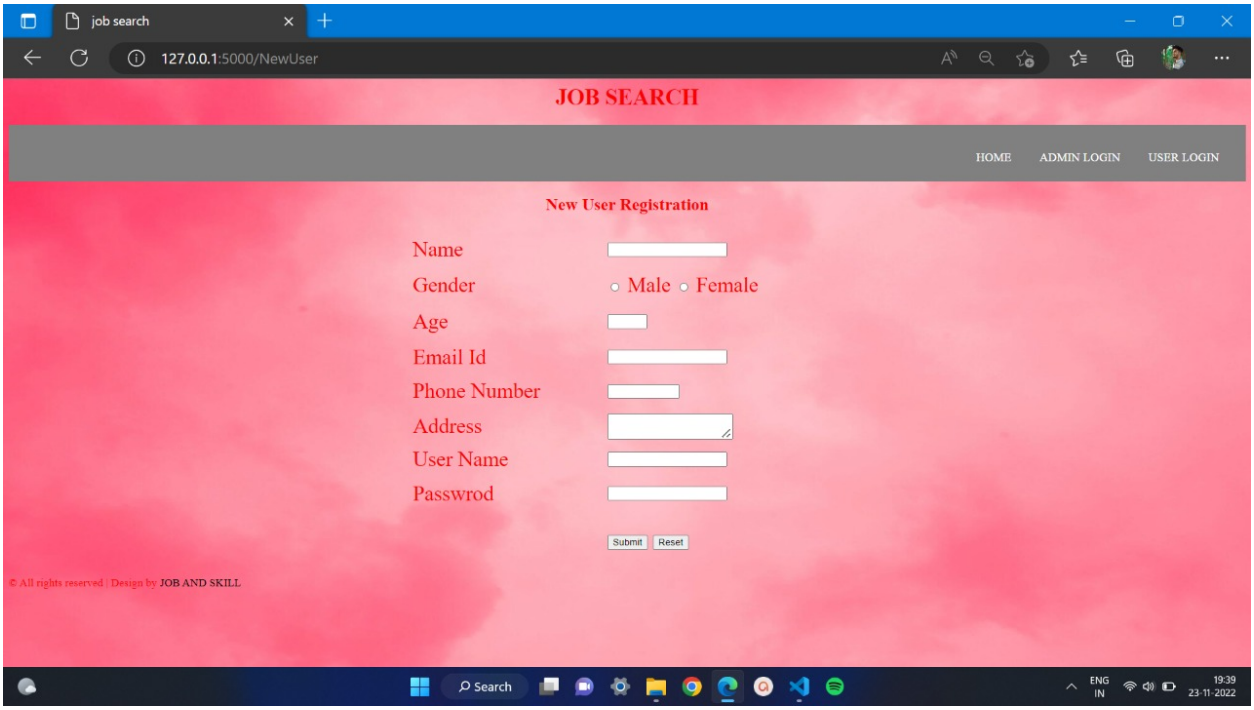
User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

Test Results: All the test cases mentioned above passed successfully. No defects encountered.

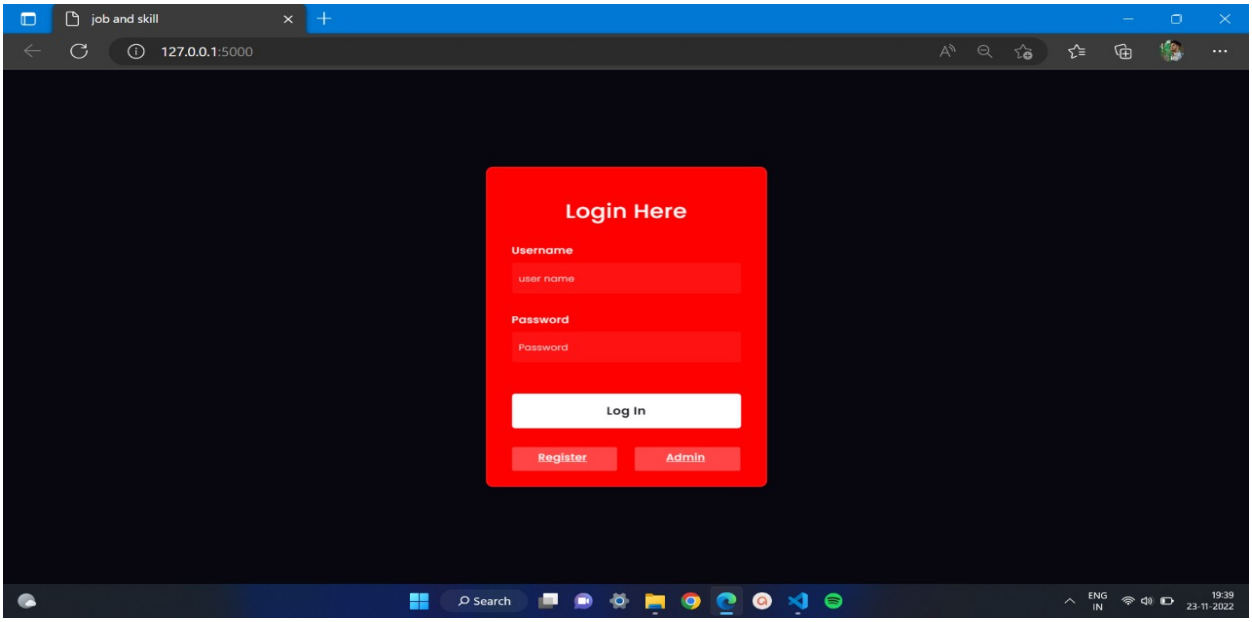
9.RESULTS

9.1 PERFORMANCE METRICS

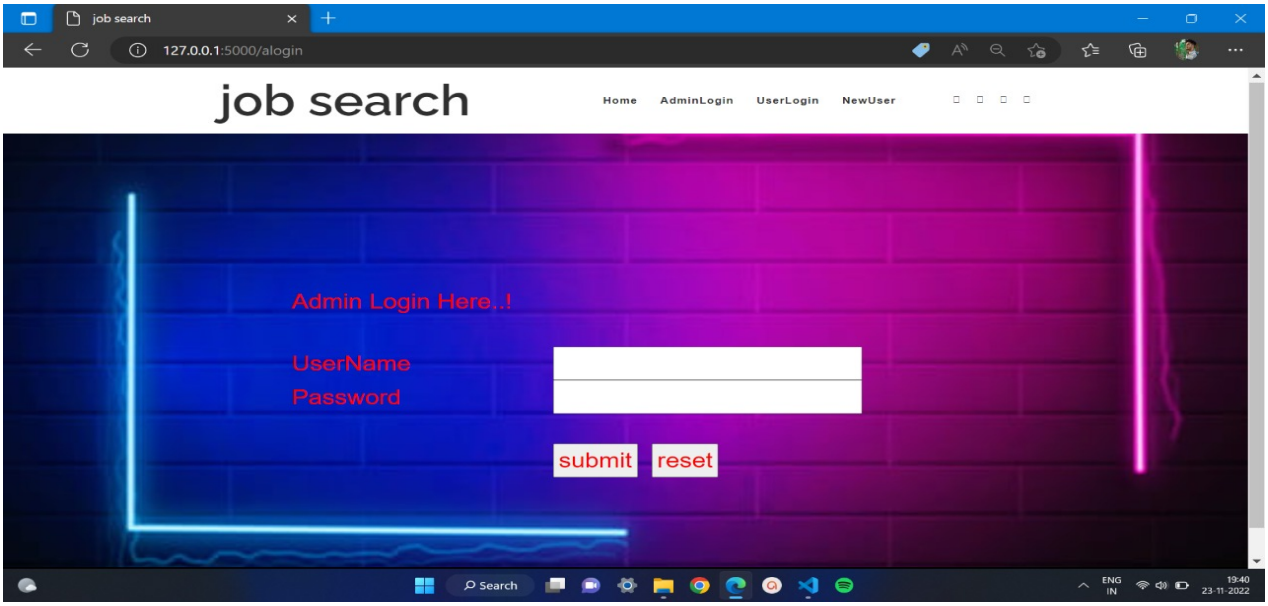
NEW USER REGISTERATION PAGE:



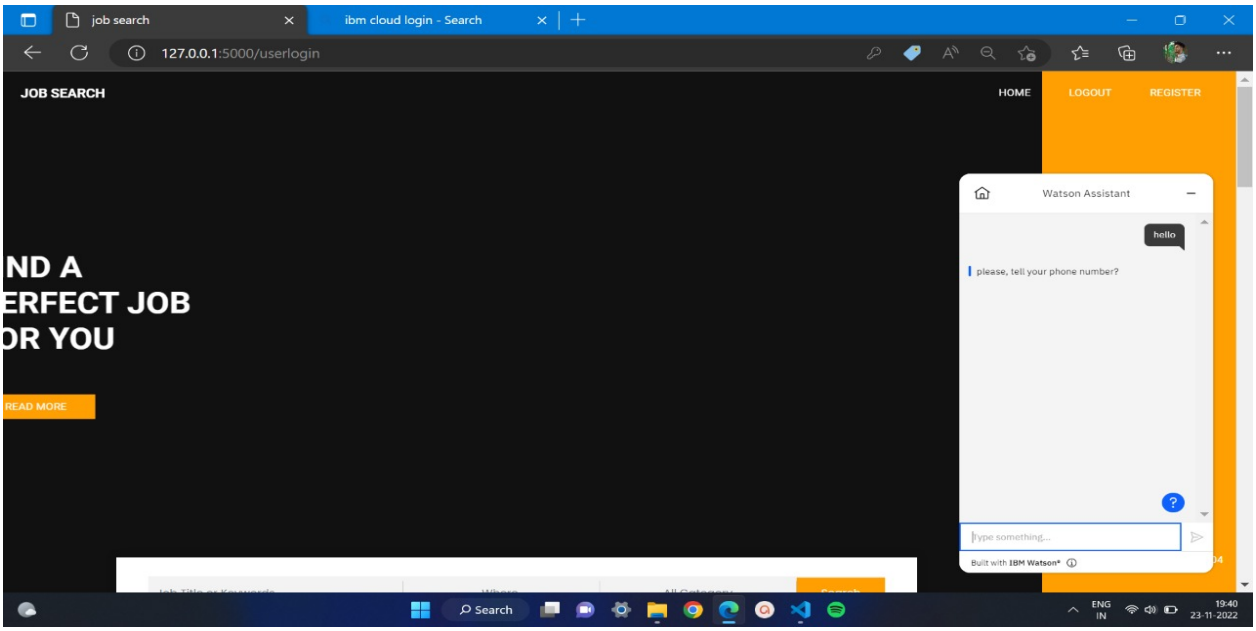
USER LOGIN PAGE:



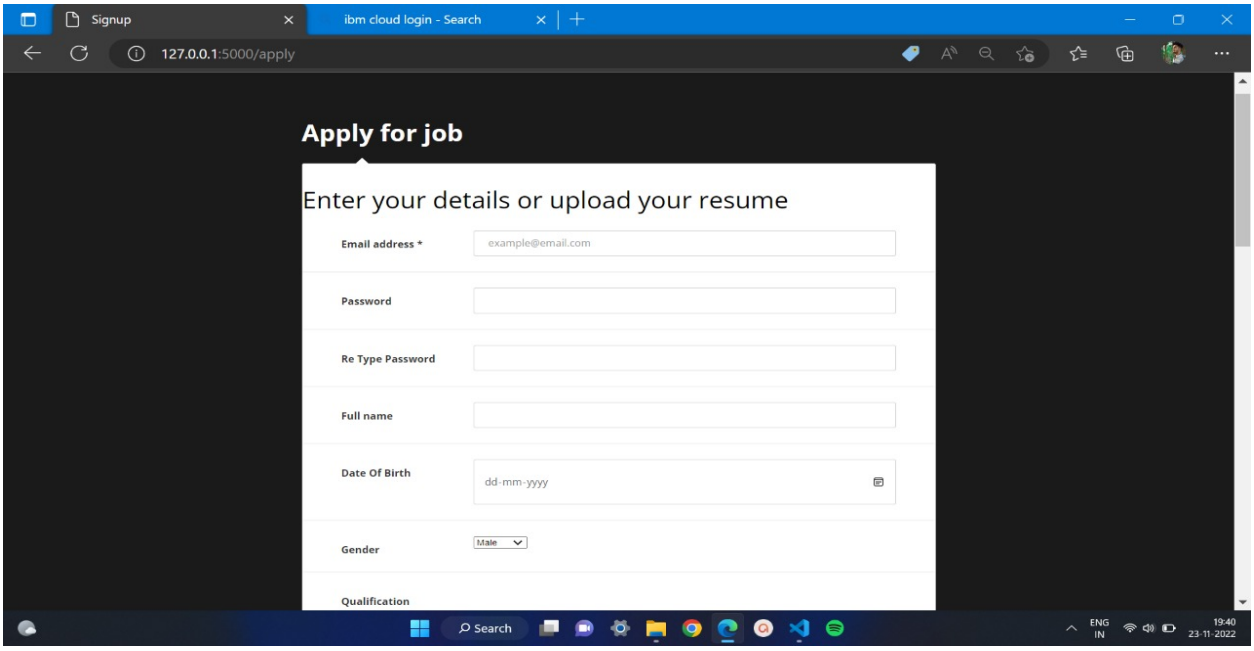
ADMIN LOGIN PAGE:



CHATBOX & HOME PAGE:



JOB APPLY PAGE:



10.ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- It provides the user-friendly account
- We can provide job recommendation
- Its user friendly

DISADVANTAGES:

- Its not deployed in real time implementation
- It’s not support when job seakers high

11.CONCLUSIONS:

A novel blended approach that leverages progression of job selection by candidates and attempts to make job recommendations serendipitous. Using blended methods, recommendations suggested to candidates are based on their interaction history with jobs, along with jobs that are a) similar to the other jobs applied by the candidate and b) Figure 4: Bi-LSTM model with Attention applied by similar candidates. Our approach naturally solves the candidate and job cold-start problem in the absence of interaction data. We also demonstrated the use of latent competency groups which expand the job skill requirements and the candidate skills thereby attempting to reveal latent competencies and achieve more coverage in the skill domain. Using

our methodology, we see a relative increase in clickthrough rates of candidates visiting our portal and applying for jobs.

12.FUTURE SCOPE

In future scope we implemented real time implementation A letter of recommendation is a letter from a professional contact in your network—past or present—endorsing you for a job or position. This letter is a testament on behalf of the writer that you possess the necessary skills, positive demeanor, and potential to be successful in the role you're seeking. In this paper, we presented a job recommender model aiming to extract meaningful data from job postings using text-clustering methods. As a result, job offers are divided into job clusters based on their common features and job offers are matched to job seekers according to their interactions. Our future Work will focus on training and evaluating our model using Word2vec method and k-means clustering algorithms used to capture and represent the context of job profiles. Subsequently, it will be easy to match set of job offers to a given job seeker based on its past interactions toward specific job offers. The dataset that will be used is built from scraping job search websites.

13.APPENDIX

SOURCE CODE:

```
from flask import Flask, render_template, request, jsonify, session
import datetime
import re
import ibm_db
import pandas
import ibm_db_dbi
from sqlalchemy import create_engine
engine = create_engine('sqlite://',
                       echo = False)
dsn_hostname = "9938aec0-8105-433e-8bf9-
0fbb7e483086.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud"
dsn_uid = "jqy49418 "
dsn_pwd = "AZTHjqYWkGzLbA0k"
dsn_driver = "{IBM DB2 ODBC DRIVER}"
dsn_database = "bludb"
dsn_port = "32459"
dsn_protocol = "TCPIP"
dsn_security = "SSL"
dsn = (
    "DRIVER={0};"
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
    "SECURITY={7};").format(dsn_driver, dsn_database, dsn_hostname, dsn_port, dsn_protocol,
dsn_uid, dsn_pwd,dsn_security)
```

```
try:
    conn = ibm_db.connect(dsn, "", "")
    print ("Connected to database: ", dsn_database, "as user: ", dsn_uid, "on host: ",
dsn_hostname)
except:
    print ("Unable to connect: ", ibm_db.conn_errormsg() )
app = Flask(__name__)
app.config.from_object(__name__)
app.config['SECRET_KEY'] = '7d441f27d441f27567d441f2b6176a'
@app.route("/")
def homepage():
    return render_template('UserLogin.html')
@app.route("/alogin")
def alogin():
    return render_template('AdminLogin.html')
@app.route("/AdminHome")
def AdminHome():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
     selectQuery = "SELECT * from regtb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    data = engine.execute("SELECT * FROM Employee_Data").fetchall()
    return render_template('AdminHome.html', data=data)
@app.route("/NewProduct")
def NewProduct():
    return render_template('NewProduct.html')
@app.route("/ProductInfo")
def ProductInfo():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * from protb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
```

```
                con=engine,
                if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductInfo.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/SalesInfo")
def SalesInfo():
    return render_template('SalesInfo.html')
@app.route("/Search")
def Search():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * from protb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                con=engine,
                if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ViewProduct.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/viewproduct", methods=['GET', 'POST'])
def viewproduct():
    searc = request.form['subcat']
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery =  "SELECT * from protb where SubCategory like '%" + searc + "%' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                con=engine,
                if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ViewProduct.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/NewUser")
```

```
def NewUser():
    return render_template('NewUser.html')
@app.route("/Newjob")
def Newjob():
    return render_template('index.html')
@app.route("/RNewUser", methods=['GET', 'POST'])
def RNewUser():
    if request.method == 'POST':
        name1 = request.form['name']
        gender1 = request.form['gender']
        Age = request.form['age']
        email = request.form['email']
        address = request.form['address']
        pnumber = request.form['phone']
        uname = request.form['uname']
        password = request.form['psw']
        conn = ibm_db.connect(dsn, "", "")
        insertQuery = "INSERT INTO regtb VALUES ('" + name1 + "','" + gender1 + "','" + Age +
"','" + email + "','" + pnumber + "','" + address + "','" + uname + "','" + password + "')"
        insert_table = ibm_db.exec_immediate (conn, insertQuery)
        print(insert_table)
    return render_template('userlogin.html')
@app.route("/RNewProduct", methods=['GET', 'POST'])
def RNewProduct():
    if request.method == 'POST':
        file = request.files['fileupload']
        file.save("static1/upload/" + file.filename)
        ProductId =request.form['pid']
        Gender =request.form['gender']
        Category =request.form['cat']
        SubCategory=request.form['subcat']
        ProductType=request.form['ptype']
        Colour=request.form['color']
        Usage=request.form['usage']
        ProductTitle=request.form['ptitle']
        price = request.form['price']
        Image= file.filename
```

```
        ImageURL="static1/upload/" + file.filename
        conn = ibm_db.connect(dsn, "", "")
        insertQuery = "INSERT INTO protb VALUES ('"+ ProductId +"','" + Gender + "','" +
Category + "','" + SubCategory + "','" + ProductType + "','" + Colour + "','"+Usage
+"','"+ProductTitle+"','"+ Image +"','"+ ImageURL +"','"+ price +"')"
        insert_table = ibm_db.exec_immediate(conn, insertQuery)
        data1 = 'Record Saved!'
        return render_template('goback.html', data=data1)
@app.route("/userlogin", methods=['GET', 'POST'])
def userlogin():
    error = None
    if request.method == 'POST':
        username = request.form['uname']
        password = request.form['password']
        session['uname'] = request.form['uname']
        conn = ibm_db.connect(dsn, "", "")
        pd_conn = ibm_db_dbi.Connection(conn)
        selectQuery = "SELECT * from regtb where uname='" + username + "' and password='" +
password + "'"
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        if dataframe.empty:
            data1 = 'Username or Password is wrong'
            return render_template('goback.html', data=data1)
        else:
            print("Login")
            selectQuery = "SELECT * from regtb where uname='" + username + "' and password='"
+ password + "'"
            dataframe = pandas.read_sql(selectQuery, pd_conn)
            dataframe.to_sql('Employee_Data',
                    con=engine,
                    if_exists='append')
            # run a sql query
            print(engine.execute("SELECT * FROM Employee_Data").fetchall())
            return render_template('index.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/adminlogin", methods=['GET', 'POST'])
def adminlogin():
```

```
    error = None
    if request.method == 'POST':
        username = request.form['uname']
        password = request.form['password']
        conn = ibm_db.connect(dsn, "", "")
        pd_conn = ibm_db_dbi.Connection(conn)
        selectQuery = "SELECT * from admintb where USERNAME='" + username + "' and
PASSWORD='" + password + "'"
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        if dataframe.empty:
            data1 = 'Username or Password is wrong'
            return render_template('goback.html', data=data1)
        else:
            print("Login")
            selectQuery = "SELECT * from regtb "
            dataframe = pandas.read_sql(selectQuery, pd_conn)
            dataframe.to_sql('Employee_Data', con=engine,if_exists='append')
            # run a sql query
            print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('AdminHome.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/Remove", methods=['GET'])
def Remove():
    pid = request.args.get('id')
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    insertQuery = "Delete from protb  where id='"+ pid +"'"
    insert_table = ibm_db.exec_immediate(conn, insertQuery)
    selectQuery = "SELECT * from protb "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductInfo.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
```

```
@app.route("/fullInfo")
def fullInfo():
    pid = request.args.get('pid')
    session['pid'] = pid
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM protb where ProductId='" + pid + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('Employee_Data',
                     con=engine,
                     if_exists='append')
    # run a sql query
    print(engine.execute("SELECT * FROM Employee_Data").fetchall())
    return render_template('ProductFullInfo.html', data=engine.execute("SELECT * FROM
Employee_Data").fetchall())
@app.route("/Book", methods=['GET', 'POST'])
def Book():
    if request.method == 'POST':
        uname = session['uname']
        pid = session['pid']
        qty = request.form['qty']
        ctype = request.form['ctype']
        cardno = request.form['cardno']
        cvno = request.form['cvno']
        Bookingid = ''
        ProductName =''
        UserName= uname
        Mobile=''
        Email=''
        Qty = qty
        Amount=''
        CardType = ctype
        CardNo = cardno
        CvNo = cvno
        date = datetime.datetime.now().strftime('%d-%b-%Y')
        conn = ibm_db.connect(dsn, "", "")
        pd_conn = ibm_db_dbi.Connection(conn)
```

```
        selectQuery = "SELECT * FROM protb where ProductId='" + pid + "' "
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        dataframe.to_sql('Employee_Data',con=engine,if_exists='append')
        data = engine.execute("SELECT * FROM Employee_Data").fetchall()
        for item in data:
            ProductName = item[8]
            price = item[11]
            print(price)
            Amount = float(price) * float(Qty)
            print(Amount)
        selectQuery1 ="SELECT  *  FROM  regtb where  uame='" + uname + "'"
        dataframe = pandas.read_sql(selectQuery1, pd_conn)
        dataframe.to_sql('regtb', con=engine, if_exists='append')
        data1 = engine.execute("SELECT * FROM regtb").fetchall()
        for item1 in data1:
            Mobile = item1[5]
            Email = item1[4]
        selectQuery = "SELECT  *  FROM  booktb"
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        dataframe.to_sql('booktb', con=engine, if_exists='append')
        data2 = engine.execute("SELECT * FROM booktb").fetchall()
        count = 0
        for item in data2:
            count+=1
        Bookingid="BOOKID00" + str(count)
        insertQuery = "INSERT INTO booktb VALUES ('" + Bookingid + "','"+ ProductName +"','"
+ price + "','" + uname + "','" + Mobile + "','" + Email + "','" + str(Qty) + "','" + str(Amount) +
"','"+ str(CardType) +"','"+ str(CardNo) +"','"+ str(CvNo) +"','"+ str(date) +"')"
        insert_table = ibm_db.exec_immediate(conn, insertQuery)
        sendmsg(Email,"order received delivery in one week ")
        selectQuery = "SELECT * FROM booktb where  uname= '" + uname + "' "
        dataframe = pandas.read_sql(selectQuery, pd_conn)
        dataframe.to_sql('booktb1', con=engine, if_exists='append')
        data = engine.execute("SELECT * FROM booktb1").fetchall()
        return render_template('UOrderInfo.html', data=data)
@app.route("/UOrderInfo")
def UOrderInfo():
```

```
    uname = session['uname']
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM booktb where uname= '" + uname + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb1', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb1").fetchall()
    return render_template('UOrderInfo.html', data=data)
@app.route("/UserHome")
def UserHome():
    uname = session['uname']
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM regtb where  uname= '" + uname + "' "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb1', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb1").fetchall()
    return render_template('UserHome.html', data=data)
@app.route("/UReviewInfo")
def ureview():
    return render_template('NewReview.html')
@app.route("/ASalesInfo")
def ASalesInfo():
    conn = ibm_db.connect(dsn, "", "")
    pd_conn = ibm_db_dbi.Connection(conn)
    selectQuery = "SELECT * FROM booktb  "
    dataframe = pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb', con=engine, if_exists='append')
    data = engine.execute("SELECT * FROM booktb").fetchall()
    return render_template('ASalesInfo.html', data=data)
def sendmsg(Mailid,message):
    import smtplib
    from email.mime.multipart import MIMEMultipart
    from email.mime.text import MIMEText
    from email.mime.base import MIMEBase
    from email import encoders
    fromaddr = "sampletest685@gmail.com"
```

```
    toaddr = Mailid
    # instance of MIMEMultipart
    msg = MIMEMultipart()
    # storing the senders email address
    msg['From'] = fromaddr
    # storing the receivers email address
    msg['To'] = toaddr
    # storing the subject
    msg['Subject'] = "Alert"
    # string to store the body of the mail
    body = message
    # attach the body with the msg instance
    msg.attach(MIMEText(body, 'plain'))
    # creates SMTP session
    s = smtplib.SMTP('smtp.gmail.com', 587)
    # start TLS for security
    s.starttls()
    # Authentication
    s.login(fromaddr, "hneucvnontsuwgpj")
    # Converts the Multipart msg into a string
    text = msg.as_string()
    # sending the mail
    s.sendmail(fromaddr, toaddr, text)
    # terminating the session
    s.quit()
@app.route("/apply")
def apply():
    return render_template('user_signup.html')
@app.route("/index")
def index():
    if request.method == 'POST':
        uname = session['uname']
        email = session['email']
        pd_conn = ibm_db_dbi.Connection(conn)
        selectQuery1 = "SELECT  *  FROM  regtb where  email='" + email + "'"
        dataframe = pandas.read_sql(selectQuery1, pd_conn)
        dataframe.to_sql('regtb', con=engine, if_exists='append')
```

```
        data1 = engine.execute("SELECT * FROM regtb").fetchall()
        sendmsg(email, "your application has been sent. ")
    return render_template('index1.html')
def main():
    app.run(debug=True, use_reloader=True)
if __name__ == '__main__':
    main()
```

GITHUB LINK:

IBM-EPBL/IBM-Project-19846-1659707860: Skill / Job Recommender Application (github.com)

DEMO VIDEO LINK:

https://drive.google.com/file/d/1ijOISlHavprxv2SCRfxYJ3V-QazxVKt5/view?usp=sharing