# PROJECT REPORT

**IBM-Project-19061-1659692658**

**TITLE:**

*Skill / Job Recommender Application*

**TEAM LEADER:**

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**TEAM ID:**

PNT2022TMID39156

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# 1 INTRODUCTION

## 1.1 Project Overview

Job recommendation is an important task for the modern recruitment industry. An excellent job recommender system not only enables to recommend a higher paying job which is maximally aligned with the skill-set of the current job, but also suggests to acquire few additional skills which are required to assume the new position.

In this work, we created three types of information networks from the historical job data: (i) job transition network, (ii) job-skill network, and (iii) skill co-occurrence network. We provide a representation learning model which can utilize the information from all three networks to jointly learn the representation of the jobs and skills in the shared k-dimensional latent space.

In our experiments, we show that by jointly learning the representation for the jobs and skills, our model provides better recommendation for both jobs and skills. Additionally, we also show some case studies which validate our claim.

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

The user and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset.

Users will interact with the chatbot and can get the recommendations based on their skills.

We can use a job search API to get the current job openings in the market which will fetch the data directly from the webpage

### 1.2 Purpose

An excellent job recommender system not only enables to recommend a higher paying job which is maximally aligned with the skill-set of the current job, but also suggests to acquire few additional skills which are required to assume the new position.

To create a software that filters the job based on the skillset of the candidates who are seeking for the job.Then that filtered job is recommended for that candidates based on their skillset.
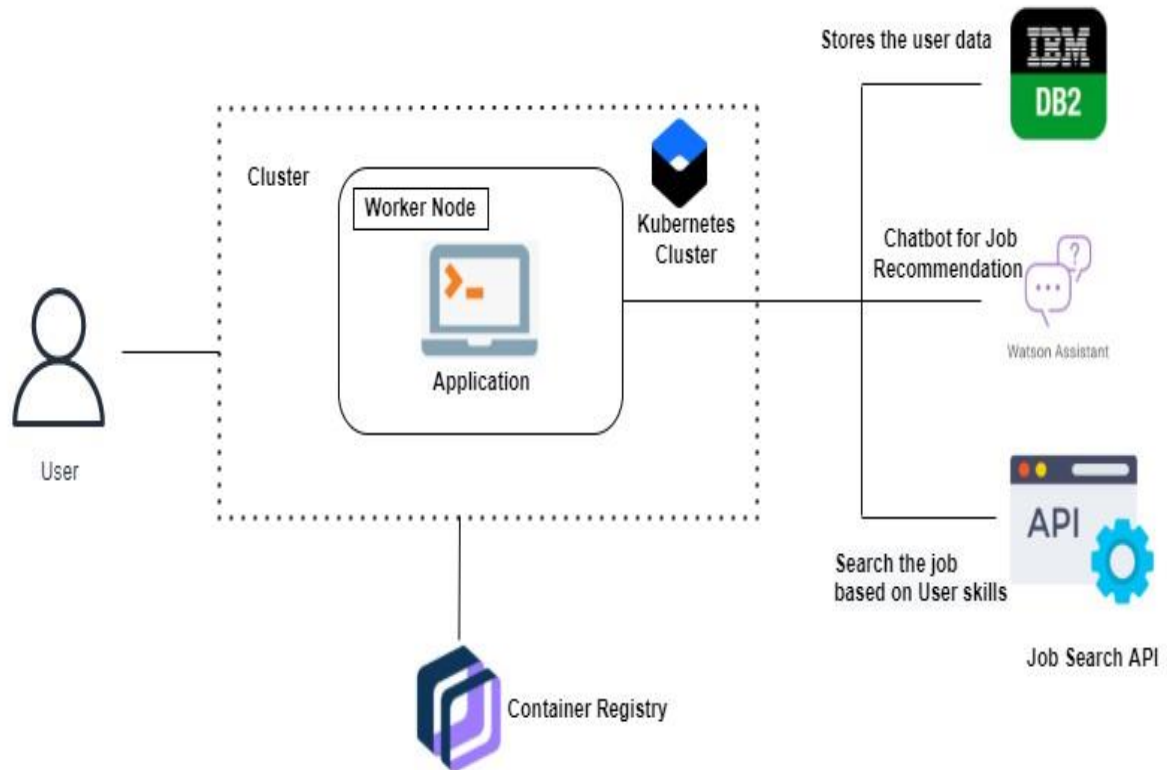
## 2 LITERATURE SURVEY

### 2.1 Existing problem

   "Job Recommendation based on Job Seeker Skills. Jorge ValverdeRebaza ,Ricardo Puma
,Paul Bustios ,Nathalia C. Silva. : First Workshop on Narrative Extraction From Text
colocated with 40th European Conference on Information Retrieval  March  2018"

 In this ,when a candidate submits his/ her profile at a job seeker engine.

Their job recommendations are mostly suggested taking their academic qualification and
work experience into considerations.

A survey of job recommender systems, Shaha Alotaibi ,International Jounal of Physical

Sciences July 2012"

The recommender system technology aims to help users in finding items that match their personnel interests, it has a successful usage in e-commerce applications to deal with problems related to information overload efficiently.
This article will present a survey of e-recruiting process and existing recommendation approaches for building personalized recommender systems for candidates/job matching

A Research of Job Recommendation System Based on Collaborative Filtering: Cheng Yang,Yingya Zhang,Zhixiang Niu, 2014 Seventh International Symposium on Computational Intelligence and Design, December 2014"

It analyze the candidate's resume and the companies' recruitment guidelines.
To compare and come to a better conclusion upon finding the best suited candidates for the job

## 2.2 References

[1] Schafer J B, Frankowski D, Herlocker J, et al.

Collaborative _ltering recommender systems[M]//The

adaptive web. Springer Berlin Heidelberg, 2007: 291-324. [2]

Pazzani M J, Billsus D. Content-based recommendation

systems[M]//The adaptive web. Springer Berlin

Heidelberg, 2007:325-341.

[3] Sarwar B, Karypis G, Konstan J, et al. Item-based collaborative _ltering recommendation

algorithms[C]//Proceedings of the 10th international conference on World Wide Web.

ACM,

2001: 285-295.

[4] Nikolaos D. Almalis ,Prof. George A. Tsihrintzis ,

Nikolaos Karagianniset al."FoDRA - A New Content-Based

Job Recommendation Algorithm for Job Seeking and

Recruiting".

[5] Anika Gupta, Dr. Deepak Garg. "Applying Data Mining

Techniques in Job Recommender System for Considering

Candidate Job Preferences".

[6] Dunning T. Accurate methods for the statistics of surprise and coincidence[J].

    Computational linguistics,

1993, 19(1): 61-74.

[7] Emmanuel Malherbe , Mamadou Diaby , Mario Cataldi et al. "Field Selection for Job

    Categorization and

Recommendation to Social Network Users". 2014
IEEE/ACM International Conference on Advances in Social

Networks Analysis and Mining (ASONAM 2014).

## 2.3 Problem Statement Definition

Having lots of skills but wondering which job will best suit you? Don't need to worry! We have come up with a skill recommender solution through which the fresher or the skilled person can log in and find the jobs by using the search option  or they can directly interact with the chatbot and get their dream job

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

# 3 IDEATION & PROPOSED SOLUTION

## 3.1 Empathy Map Canvas
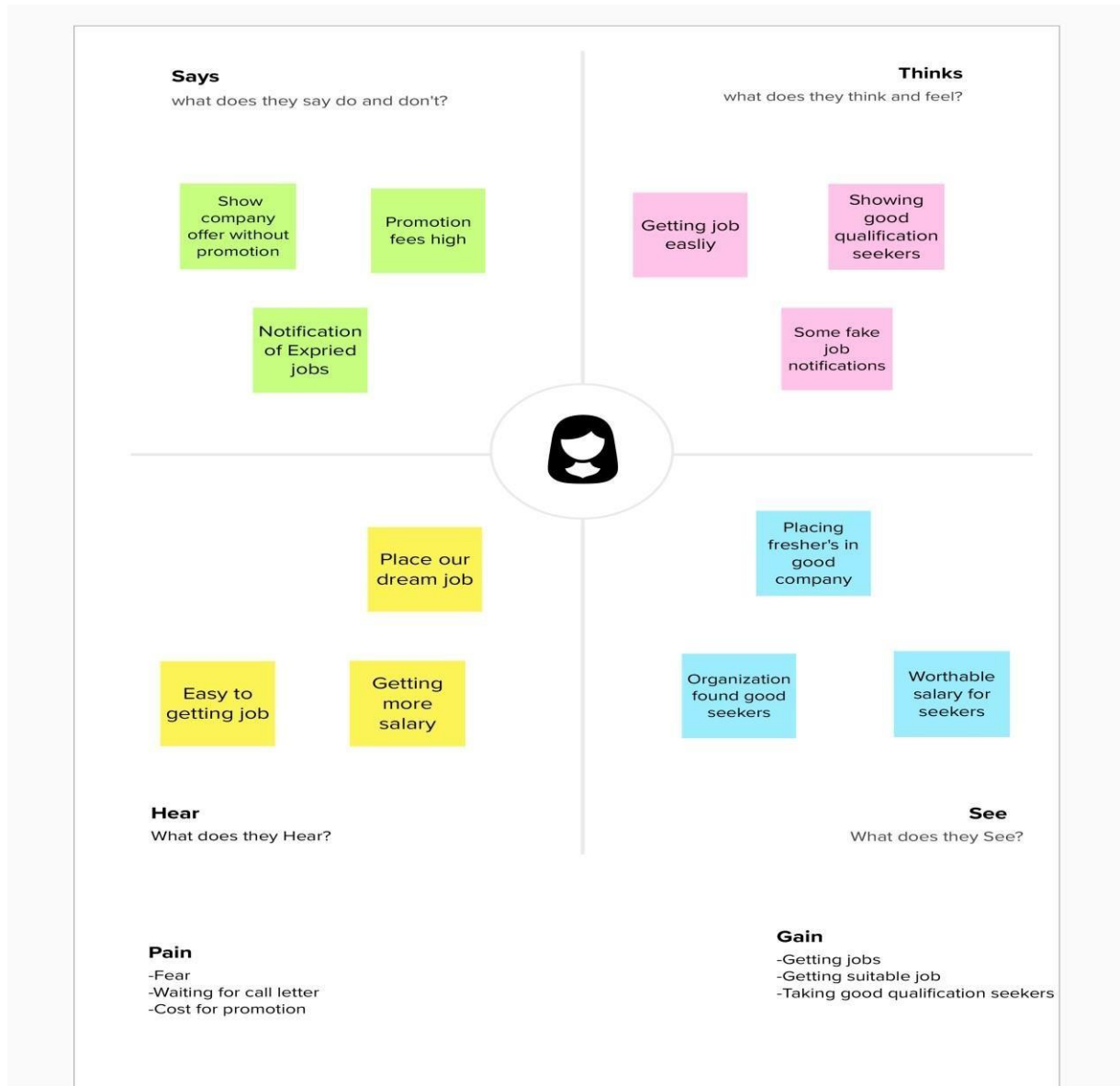


## 3.2 Ideation & Brainstorming

## 2

### Brainstorm

Write down any ideas that come to mind
that address your problem statement.

⏱ 10 minutes

### Person 1

| | | |
|---|---|---|
| More notifications | Website Options | Link google map |
| Matching Seekers | Job Analysis | Rating |
| Direct contacts | Found Best job | Best Profiles |

### Person 2

| | | |
|---|---|---|
| job seekers | Quick Response | Website provide |
| Best Rating companies | Give Ad | create Best profiles |
| High Internet | Mentor chat | Matching jobs& seekers |

### Person 3

| | | |
|---|---|---|
| Best fit | Mentor Chat | Past Experience |
| Ratings | Refer jobs | Attach google map |
| Bulit Resume | Matching jobs | invite links |

### Person 4

| | | |
|---|---|---|
| Mentor chats | Location facilities | Contact Details |
| Better jobs | Refer jobs | Ratings |
| Social media Ads | Give offers | Share friends |

## 3

### Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all
sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is
bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

⏱ 20 minutes

- Mentor chat
- Matching jobs & Seekers
- Contact details
- Best rating companies
- Quick response
- Invite links
- Found Best job
- Location facilities
- Refer jobs (Notifications)
- Give company websites
- Give Ads
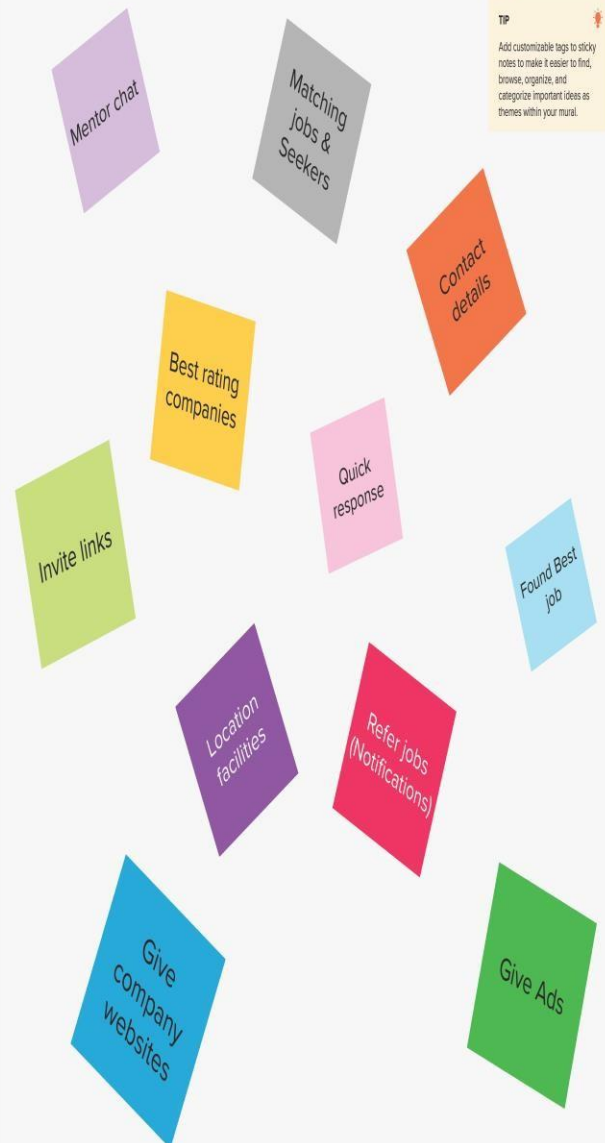
**4**

## Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⏱ 20 minutes

♡

**Importance**

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Contact details

Matching jobs & Seekers

Mentor chat

Location facilities

Give company websites

Found Best job

Refer jobs (Notifications)

**TIP** 💡

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

Give Ads

Quick response

Invite links

⚑

**Feasibility**

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

## 3.3 Proposed Solution

| S.No. | Parameter | Description |
|---|---|---|
| 1. | Problem Statement (Problem to be solved) | We are proposing an algorithm which will help the students to give suggestions on the jobs based skills and get which jobs suits based on their skill set |
| 2. | Idea / Solution description | The recommender system technology aims to help users finding jobs that match their skills. |
| 3. | Novelty / Uniqueness | Each candidate and each job is unique. So, if a matching was successful, both candidate and job won't be available anymore. |
| 4. | Social Impact / Customer Satisfaction | Students will be benefited they will get know which jobs suits them based on their skill set. |
| 5. | Business Model (Revenue Model) | We can provide the application for job seekers in a subscription based.<br> We can share the profiles with companies and generate the revenue by providing them best profiles |
| 6. | Scalability of the Solution | Students will have the skill but they unable to get the desired job for skills they have. we are proposing an application which will help the students to give suggestions on the jobs based the skills. Students can also enquire about skills that are required to their desired job |

**3.4 Problem Solution fit**

## 1. CUSTOMER SEGMENT(S)

**Cs**

Who is your

customer?

## 6.

**cc**

What constraints prevent your customers from taking action or limit their choices of solutions?

Available jobs network connection, available devices.

## 5. AVAILABLE SOLUTIONS

**AS**

Which
Or need to get

the job done?

What have they

tried in the past?

What pros & cons

do these solutions

have?

## 2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your customers?

Identifying outcomes that customers seek, as opposed to products they want.

Suitable jobs for seekers.

## 9. PROBLEM ROOT CAUSE

What is the real reason that this problem exists? What is the back story behind the need to do this job?

Customers have to do it because of the change in regulations.

## 7. BEHAVIOUR

What does your customer do to address the problem and get the job done?

Create there Profile Follow the Organisations,

Search there Skill based jobs.

**Identify strong TR & EM** (vertical text on left sidebar)

## 3. TRIGGERS

What triggers customers to act?

Giving more ads to get seekers, invite links, news paper ads , Sending notifications.

## 4. EMOTIONS: BEFORE / AFTER

How do customers feel when they face a problem or a job and afterwards?

Feel sad overthing about that , after they

## 10. YOUR SOLUTION

We are proposing an algorithm which will help the students to give suggestions on the jobs based skills and get which jobs suits based on their skill set.

## 8. CHANNELS of BEHAVIOUR

### 8.1 ONLINE

What kind of actions do customers take online? Extract online channels from #7

Chat with mentor , Direct contact, searching and finding Suitable jobs easily.

### 8.2 OFFLINE

What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Oppointment for meeting managers

overcome that .

## 4 REQUIREMENT ANALYSIS

### 4.1 Functional requirement

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|--------|-------------------------------|------------------------------------|
| FR-1 | Sign in / Login | Register with username, password |
| FR-2 | Profile Registration | Register with username, password, email, qualification, skills. This data will be stored in a database. |
| FR-3 | Job profile display | Display job profiles based on availability, location, skills. |
| FR-4 | Chatbot | A chat on the webpage to solve user queries and issues. |
| FR-5 | Job Registration | The company's registration/Description details will be sent to the registered email id of the user. |
| FR-6 | Logout | Use logout option after completing job registration process. |

### 4.2 Non-Functional requirements

**Non-functional Requirements:**

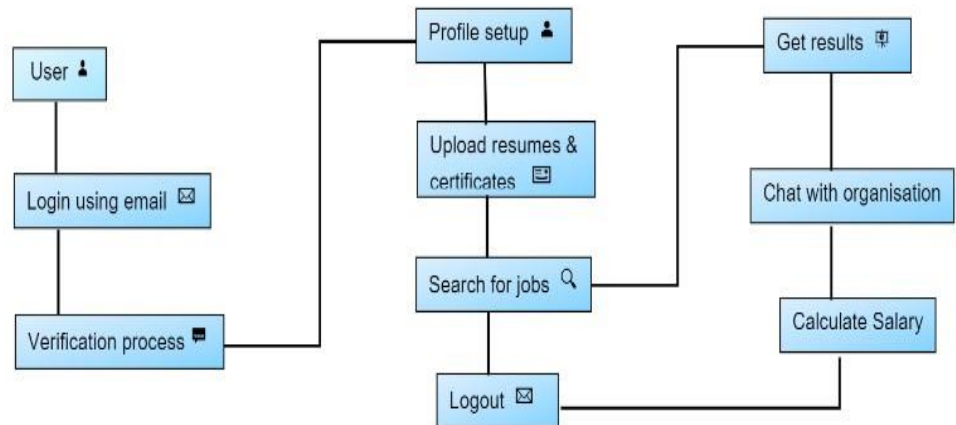Following are the non-functional requirements of the proposed solution.

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | Usability | The webpage will be designed in such a way that any non-technical user can easily navigate through it and complete the job registration work. (easy and simple design) |
| NFR-2 | Security | Using of python flask to cloud connect will provide security to the project. Database will be safely stored in DB2. |
| NFR-3 | Reliability | To make sure the webpage doesn't go down due to network traffic. |
| NFR-4 | Performance | Focus on loading the webpage as quickly as possible irrespective of the number of user/integrator traffic. |
| NFR-5 | Availability | The webpage will be available to all users (network connectivity is necessary) at any given point of time. |
| NFR-6 | Scalability | Increasing the storage space of database can increase the number of users. Add some features in future to make the webpage unique and attractive. |

# 5  PROJECT DESIGN

## 5.1 Data Flow Diagrams

**Data Flow Diagrams:**

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

## 5.2 Solution & Technical Architecture



Job Seeker     App Developer     Recruiter     Cloud Pack for Data

Application

1.Fetch and display job openings

2.Create user profile

3.Post job openings

4.Apply for jobs

5.Filter out apt profile

6.Notify results

Stores the user data

IBM DB2

Cluster

Worker Node

Application

Kubernetes Cluster

Chatbot for Job Recommendation

Watson Assistant

User

Search the job based on User skills

API

Job Search API

Container Registry

## 5.3 User Stories

**User Stories**

Use the below template to list all the user stories for 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 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 & password | | High | Sprint-1 |
| | Dashboard | USN-5 | As a user, I can access my dashboard after signing in. | I can access my account / dashboard | High | Sprint-1 |
| Customer (Web user) | Access | USN-6 | As a user, I can setup a profile, and basic details by signing in. | | | |
| | | USN-7 | As a user, I will upload my resume, certificates, and other requirements. | I can perform several task in the application | Medium | Sprint-1 |
| Customer Care Executive | Chatbot | USN-8 | As a user, I can seek guidance from the customer care executive. | | High | Sprint-1 |
| Administrator | DBMS | USN-9 | As a administrator, I can keep the applications of your organization relies on running. | I can perform various modifications in the applications. | High | Sprint-1 |

## 6 PROJECT PLANNING & SCHEDULING

### 6.1 Sprint Planning & Estimation

**Project Planning Phase**
**Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)**

| Date | 30 October 2022 |
|---|---|
| Team ID | PNT2022TMID39156 |
| Project Name | Project – Skill / Job Recommender |
| Maximum Marks | 10 Marks |

**Product Backlog, Sprint Schedule, and Estimation (4 Marks)**

Use the below template to create product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-1 | Registration | USN-1 | UI Creation<br>Creating Registration page, Login page | 10 | High | ABINAYA<br>HARINI<br>KARTHIGA<br>SNEHA |
| Sprint-1 | Database Connectivity | USN-2 | Viewing and applying jobs<br>Connecting UI with Database | 10 | High | ABINAYA<br>HARINI<br>KARTHIGA<br>SNEHA |
| Sprint-2 | SendGrid Integration | USN-3 | SendGrid Integration with Python Code | 10 | Medium | ABINAYA<br>HARINI<br>KARTHIGA<br>SNEHA |
| Sprint-2 | Chatbot Development | USN-4 | Building a chatbot | 10 | High | ABINAYA<br>HARINI<br>KARTHIGA<br>SNEHA |

### 6.2 Sprint Delivery Schedule

**Project Tracker, Velocity & Burndown Chart: (4 Marks)**

| 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 | 4 Days | 29 Oct 2022 | 01 Nov 2022 | 20 | 19 November 2022 |
| Sprint-2 | 20 | 4 Days | 02 Nov 2022 | 05 Nov 2022 | | |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | | |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | | |

## 6.3 Reports from JIRA





## 7 CODING & SOLUTIONING

## Job FInder
Get your deram job
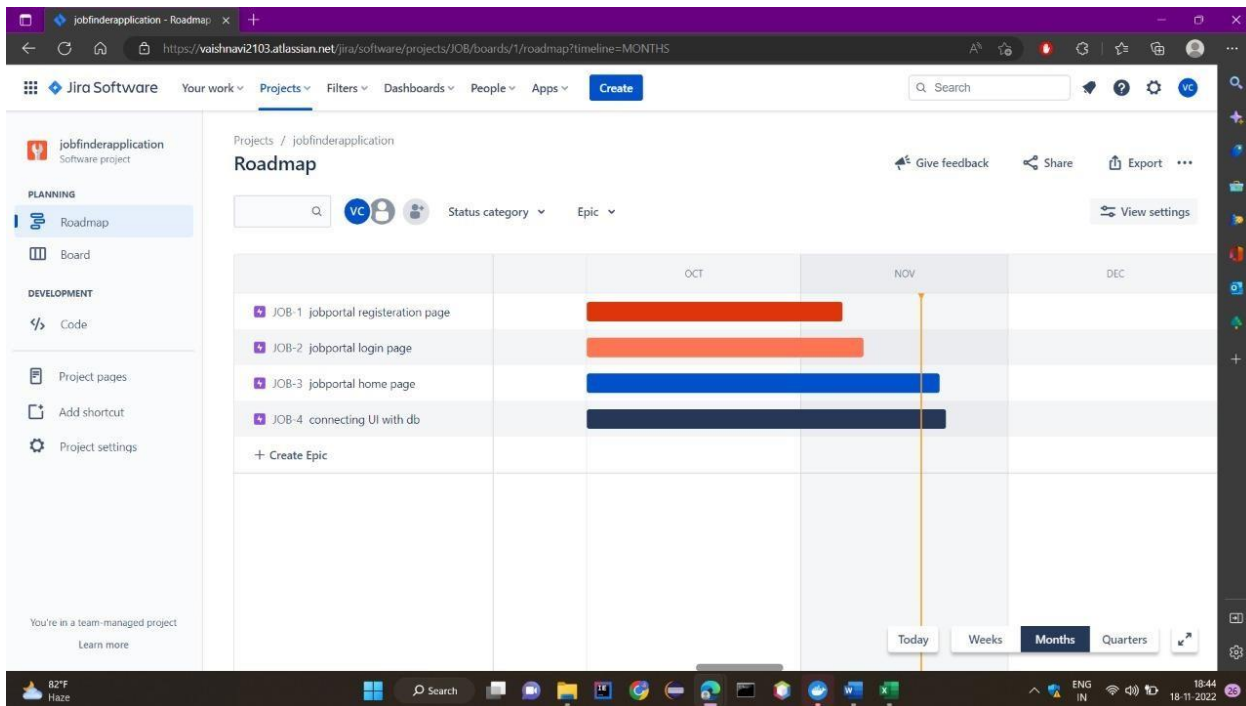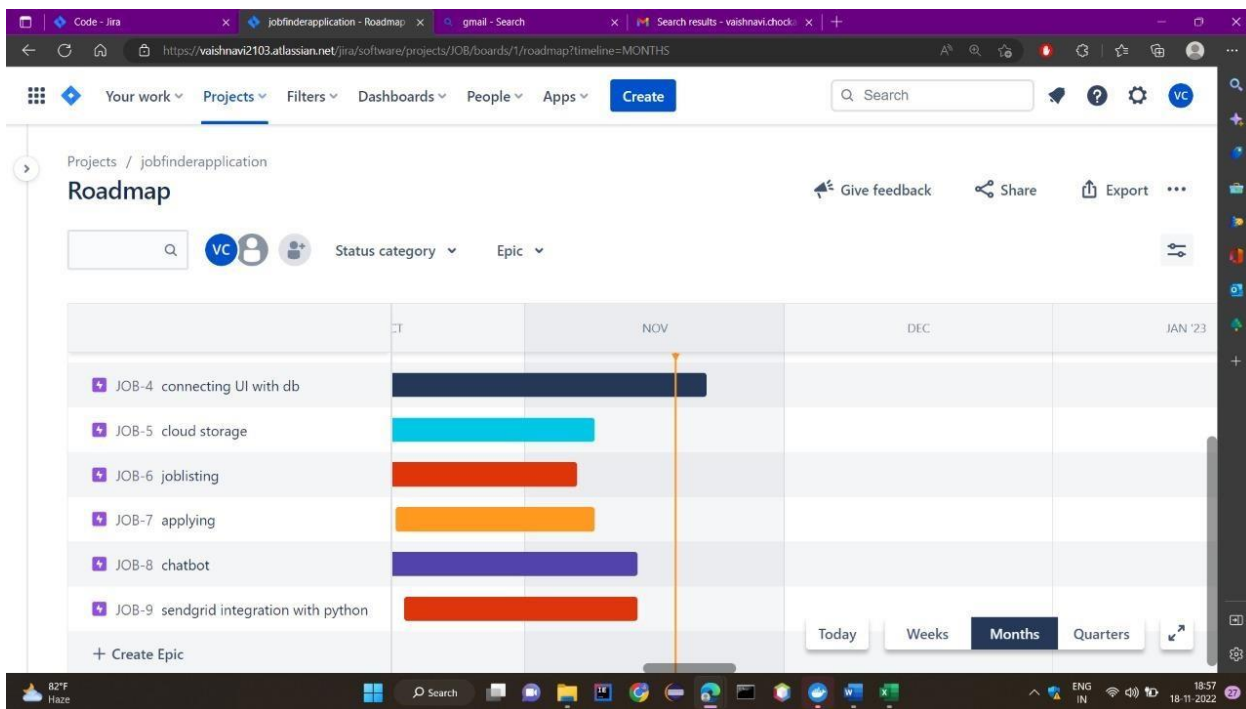
Home    Find a Jobs    About

Register    Login

# Find the
# most exciting
# startup jobs

✕ Close

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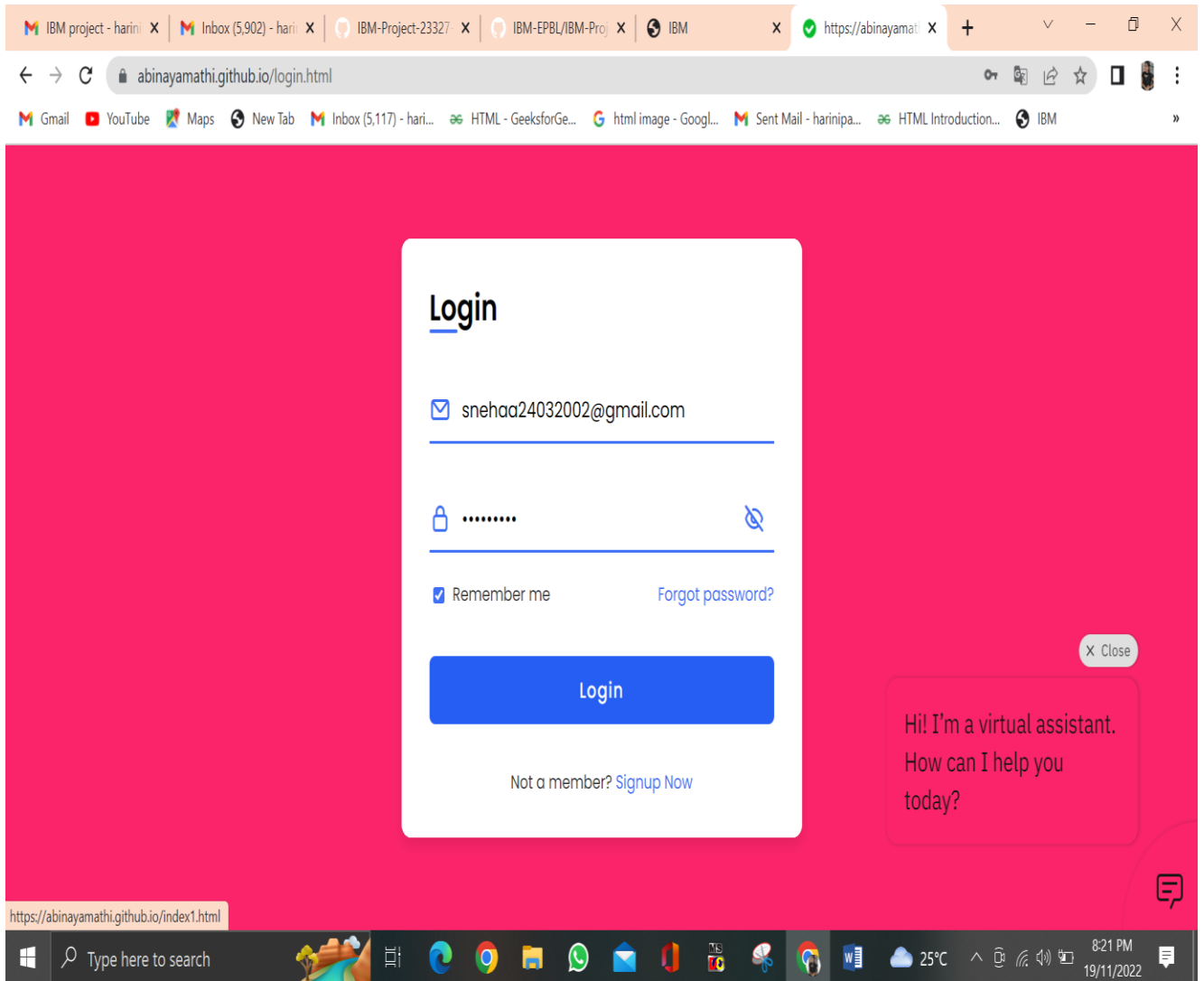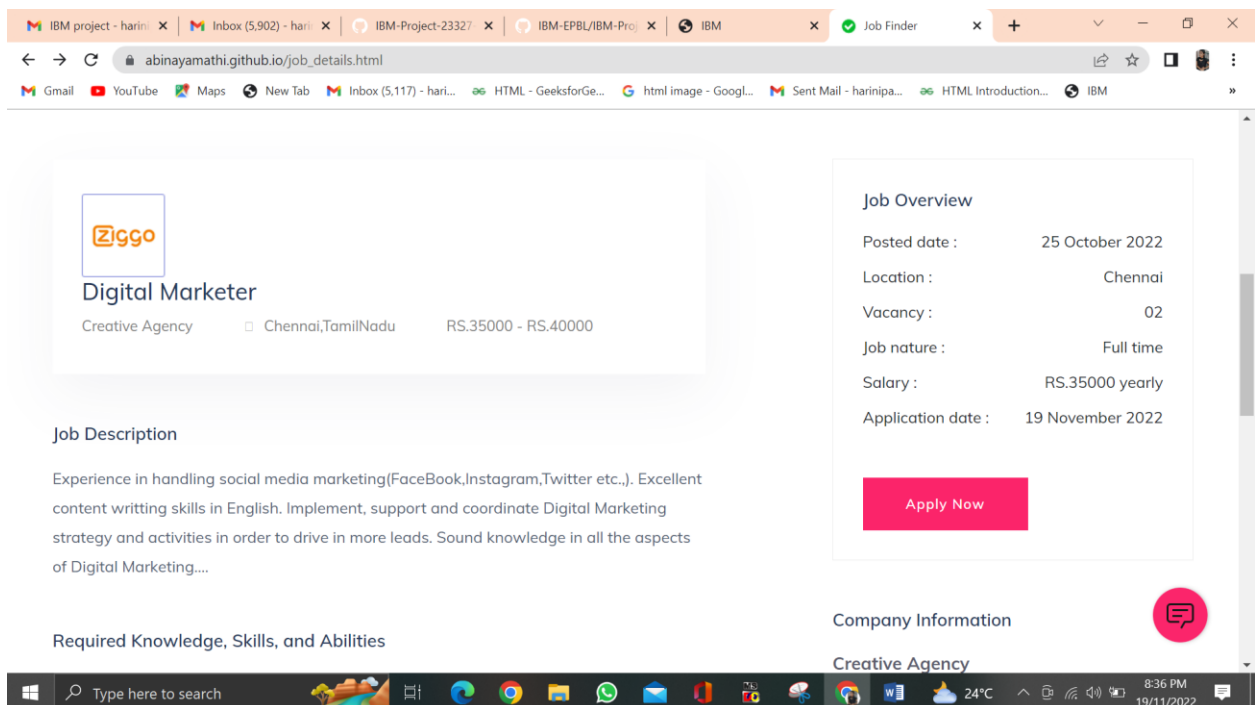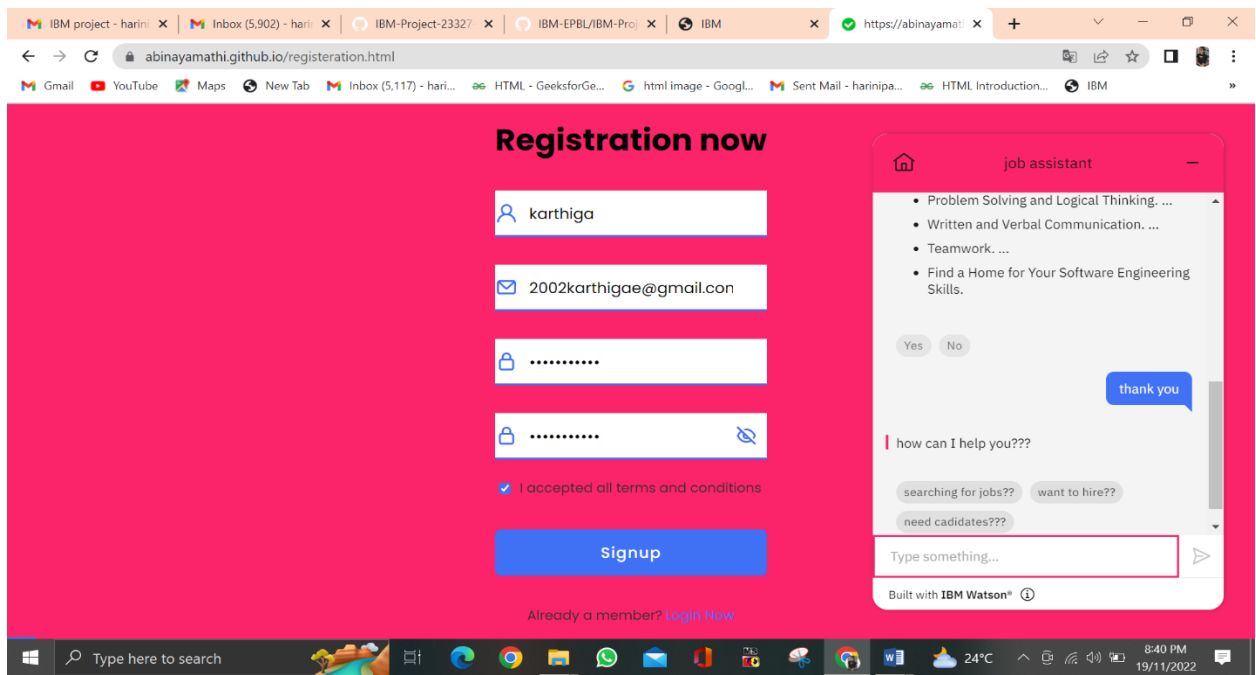
**8 TESTING**

**8.1 Test Cases**

Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs and improving performance.

**This Software is tested and evaluated successfully.**

### 8.2 User Acceptance Testing

Purpose of Document
The purpose of this document is to briefly explain the test coverage and open issues of the Inventory Management System project at the time of the release to User Acceptance Testing (UAT)

User Acceptance Testing is carried out in a separate testing environment. A change, an update, or a new feature is requested and developed. Unit and integration tests are run. All seems to be in order. But then, after it is released to the public, serious problems appear. Rework and retesting are not the most expensive consequences when that happens. Loss of reputation is.

## 9 RESULTS

### 9.1 Performance Metrics

Based on the two types of user recommendations mentioned above, we analyze the

performance of all the techniques mentioned above. The resultant jobs recommended to

each new user are then checked with the job that the user is originally in as per the test

dataset. If the original user job is recommended in the model result, then the model

appends 1 for yes else, it appends 0 for no.

This array of 0's and 1's thus received is then checked for accuracy by computing the count of

1's from the total user predictions

Among all the models made with the incorporation of different similarity metrics,  the

cosine similarity based job recommendation system model outperformed rest of them

all. The metrics used to analyse the model performance are: accuracy, precision, recall

and F1-score.This is because cosine considers the existence of duplicate terms while

computing similarity.Also, computationally, cosine has low complexity and ease over

handling spare data vectors since only non-zero dimensions are considered.

Upon analyzing the result table we observe that the short-comings of some similarity

measures upon recommending top 5 and highest-score based job recommendations as even

upon achieving high . similarity scores is due to the fact that users are seen to have different

jobs than the ones recommended  by the models, thus resulting in 6–10% error rates.

## 10 ADVANTAGES

- The model doesn't need any data about other users, since the recommendations

  are specific to this user.

- This makes it easier to scale to a large number of users.
- The model can capture the specific interests of a user, and can recommend niche

  items that very few other users are interested in.

## DISADVANTAGES

- Since the feature representation of the items are hand-engineered to some

  extent,this technique requires a lot of domain knowledge. Therefore, the model

  can only be as good as the hand-engineered features.

- The model can only make recommendations based on existing interests of the
  user.

- In other words, the model has limited ability to expand on the users' existing
  interests

## 11 CONCLUSION

In this project, Content-Based Filtering and Collaborative Filtering of recommendations
have been compared. Additionally, an aggregation plus recommender system has been
devised.

 Content-Based Filtering recommends the results based on matching the personal
preferences  of the user with the given document whereas collaborative filtering
recommends based on the  preferences of fellow users. On evaluating both of these
methods, it was concluded that a  hybrid system of both of these overcomes the limitations
of both of them and increases the  efficiency of ranking. Problems of cold start, sparse
database, scalability, and lack of  trend recommendation have been eliminated. The
proposal is to design a Job Recommender  system that prioritizes quality over quantity.

While there are websites and job listing portals already recommending jobs to job seekers based on their profiles, this research on aggregate quality recommendations has been achieved by crawling selectively, overcoming the limitations. A fully functioning user interface was developed to combine everything together to give the user a seamless experience**.**

## 12 FUTURE SCOPE

Future works in the case of Personalized Job Recommendation Systems are the utilization of the user-preferred location to get job recommendations based on jobs in organizations established in nearby areas. This can be done by extracting the latitudes and longitudes of the user-preferred location and computing the euclidean distances between the latitudes and longitudes of the organization location.

This filters out other jobs that fall far from the user-preferred location and gives a more accurate job recommender

As part of the future work, we plan to usefeatures of similar candidates and jobs

insequence information. As of now,recommendation using similar candidates an jobs forms part of non-machine learning basedrecommendations and the initial result seempromising.

Finally, it would be interesting toextend our methodology to other recommendersystems

## 13 APPENDIX Source Code

```html
<!DOCtype html>
<html class="no-js" lang="zxx">
<head>
    <meta charset="utf-8">
    <meta http-equiv="x-ua-compatible" content="ie=edge">
    <title>Job Finder</title>
    <meta name="description" content="">
    <meta name="viewport" content="width=device-width, initial-scale=1">
```

```html
    <link rel="manifest" href="site.webmanifest">
        <link rel="shortcut icon" type="image/x-icon" href="http://s3.jptok.cloud-
object-storage.appdomain.cloud/jobportalwebsite/assets/img/favicon.ico">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/bootstrap.min.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/owl.carousel.min.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/flaticon.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/price_rangs.css">
<link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/slicknav.css">        <link
rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/animate.min.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/magnific-popup.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/fontawesome-
all.min.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/themify-icons.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/slick.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/nice-select.css">
    <link rel="stylesheet" href="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/css/style.css">
<body>

 <header>
    <!-- Header Start -->
   <div class="header-area header-transparrent">
      <div class="headder-top header-sticky">
          <div class="container">
             <div class="row align-items-center">
                <div class="col-lg-3 col-md-2">
                   <!-- Logo -->
                   <div class="logo">
                      <a href="index.html"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/logo/logo.png"
alt=""></a>
                   </div>
                </div>
```

```html
            <div class="col-lg-9 col-md-9">
               <div class="menu-wrapper">
                  <!-- Main-menu -->
                  <div class="main-menu">
                     <nav class="d-none d-lg-block">
                        <ul id="navigation">
                           <li><a href="/index">Home</a></li>
                           <li><a href="/job_listing">Find a Jobs </a></li>
                           <li><a href="/about">About</a></li>

                        </ul>
                     </nav>
                  </div>
                  <!-- Header-btn -->
                  <div class="header-btn d-none f-right d-lg-block">
                     <a href="/registeration" class="btn head-btn1">Register</a>
                     <a href="/login" class="btn head-btn2">Login</a>
                  </div>
               </div>
            </div>
            <!-- Mobile Menu -->
            <div class="col-12">
               <div class="mobile_menu d-block d-lg-none"></div>
            </div>
         </div>
      </div>
   </div>
   <!-- Header End -->
</header>
<main>
   <!-- slider Area Start-->
   <div class="slider-area ">
      <!-- Mobile Menu -->
      <div class="slider-active">
         <div class="single-slider slider-height d-flex align-items-center"
databackground="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/img/hero/h1_hero.jpg">
            <div class="container">
               <div class="row">
                  <div class="col-xl-6 col-lg-9 col-md-10">
                     <div class="hero__caption">
                        <h1>Find the most exciting startup jobs</h1>
                     </div>
```

```
                </div>
              </div>


          </div>
        </div>
      </div>
    </div>
    <!-- slider Area End-->
    <!-- Featured_job_start -->
      <section class="featured-job-area feature-padding">
        <div
class="container">
<!-- Section Tittle -->
          <div class="row">
          <div class="col-lg-12">
            <div class="section-tittle text-center">
              <span>Recent Job</span>
              <h2>Featured Jobs</h2>
            </div>
          </div>
        </div>
        <div class="row justify-content-center">
          <div class="col-xl-10">
            <!-- single-job-content -->
            <div class="single-job-items mb-30">
              <div class="job-items">
                <div class="company-img">
                  <a href="#"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list1.png"
alt="img"></a>
                </div>
                <div class="job-tittle job-tittle2">
                  <a href="#">
                    <h4>Digital Marketer</h4>
                  </a>
                  <ul>
                    <li>Creative Agency</li>
                    <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
                    <li>RS.35000 - RS.40000</li>
                  </ul>
                </div>
              </div>
```

```html
            <div class="items-link items-link2 f-right">
               <a href="/job_details">Full Time</a>
               <span>7 hours ago</span>
            </div>
         </div>
         <!-- single-job-content -->
         <div class="single-job-items mb-30">
            <div class="job-items">
               <div class="company-img">
                  <a href="#"><img src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list2.png"
alt="img"></a>
               </div>
               <div class="job-tittle job-tittle2">
                  <a href="#">
                     <h4>Back End Developer</h4>
                  </a>
                  <ul>
                  <li>Mentee Chain</li>
                  <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
                     <li>RS.41500 - RS.72000</li>
                  </ul>
               </div>
            </div>
            <div class="items-link items-link2 f-right">
               <a href="/job_details">Full Time</a>
               <span>5 hours ago</span>
            </div>
         </div>
         <!-- single-job-content -->
         <div class="single-job-items mb-30">
            <div class="job-items">
               <div class="company-img">
                  <a href="#"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list3.png"
alt=""></a>
               </div>
               <div class="job-tittle job-tittle2">
                  <a href="#">
                     <h4>SQL Developer</h4>
                  </a>
                  <ul>
                     <li>Sutherland</li>
```

```
                <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
                <li>RS.82500 - RS.44000</li>
              </ul>
            </div>
          </div>
          <div class="items-link items-link2 f-right">
            <a href="/job_details">Full Time</a>
            <span>2 hours ago</span>
          </div>
        </div>
        <!-- single-job-content -->
          <div class="single-job-items mb-30">
            <div class="job-items">
              <div class="company-img">
                <a href="#"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list4.png"
alt=""></a>
              </div>
              <div class="job-tittle job-tittle2">
                <a href="#">
                  <h4>TIBCO Developer</h4>
                </a>
                <ul>
                  <li>Infosys</li>
                  <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
                  <li>RS.53500 - RS.40000</li>
                </ul>
              </div>
            </div>
            <div class="items-link items-link2 f-right">
              <a href="/job_details">Full Time</a>
              <span>1 hours ago</span>
            </div>
          </div>
          <!-- single-job-content -->
          <div class="single-job-items mb-30">
            <div class="job-items">
              <div class="company-img">
                <a href="#"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list1.png"
alt=""></a>
              </div>
```

```html
            <div class="job-tittle job-tittle2">
              <a href="#">
                <h4>Hadoop Developer</h4>
              </a>
              <ul>
                <li>Capgemini</li>
                <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
                <li>RS.33500 - RS.24000</li>
              </ul>
            </div>
          </div>
          <div class="items-link items-link2 f-right">
            <a href="/job_details">Full Time</a>
            <span>3 hours ago</span>
          </div>
        </div>
        <!-- single-job-content -->
        <div class="single-job-items mb-30">
         <div class="job-items">
           <div class="company-img">
             <a href="#"><img src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list3.png"
alt=""></a>
           </div>
           <div class="job-tittle job-tittle2">
             <a href="#">
               <h4>Full stack Developer</h4>
             </a>
             <ul>
               <li>VCW Limited</li>
               <li><i class="fas fa-map-
markeralt"></i>Chennai,TamilNadu</li>
               <li>RS.45500 - RS.24000</li>
             </ul>
           </div>
         </div>
         <div class="items-link items-link2 f-right">
           <a href="/job_details">Full Time</a>
           <span>4 hours ago</span>
         </div>
       </div>
       <!-- single-job-content -->
       <div class="single-job-items mb-30">
```

```html
                <div class="job-items">
                    <div class="company-img">
                        <a href="#"><img src="http://s3.jp-tok.cloud-objectstorage.appdomain.cloud/jobportalwebsite/assets/img/icon/job-list4.png" alt=""></a>
                    </div>
                    <div class="job-tittle job-tittle2">
                        <a href="#">
                            <h4>Senior FinOps Engineer</h4>
                        </a>
                        <ul>
                            <li>WPP</li>
                            <li><i class="fas fa-map-markeralt"></i>Chennai,TamilNadu</li>
                            <li>RS.33500 - RS54000</li>
                        </ul>
                    </div>
                    <div class="items-link items-link2 f-right">
                        <a href="/job_details">Full Time</a>
                    <span>6 hours ago</span>
                  </div>
                </div>
            </div>
    </section>
    <!-- Featured_job_end -->
    <!-- How  Apply Process Start-->
    <div class="apply-process-area apply-bg pt-150 pb-150" databackground="http://s3.jp-tok.cloud-object-storage.appdomain.cloud/jobportalwebsite/assets/img/gallery/how-applybg.png">
        <div class="container">
<!-- Section Tittle -->
            <div class="row">
                <div class="col-lg-12">
                    <div class="section-tittle white-text text-center">
                        <span>Apply process</span>
                        <h2> How it works</h2>
                    </div>
                </div>
            </div>
            <!-- Apply Process Caption -->
            <div class="row">
                <div class="col-lg-4 col-md-6">
                    <div class="single-process text-center mb-30">
```

```html
                    <div class="process-ion">
                        <span class="flaticon-search"></span>
                    </div>
                    <div class="process-cap">
                        <h5>1. Search a job</h5>
                        <p></p>
                    </div>
                </div>
            </div>
                <div class="col-lg-4 col-md-6">
                    <div class="single-process text-center mb-30">
                        <div class="process-ion">
                            <span class="flaticon-curriculum-vitae"></span>
</div>
                        <div class="process-cap">
                            <h5>2. Apply for job</h5>
                            <p></p>
                        </div>
                    </div>
                </div>
                <div class="col-lg-4 col-md-6">
                    <div class="single-process text-center mb-30">
                        <div class="process-ion">
                            <span class="flaticon-tour"></span>
                        </div>
                        <div class="process-cap">
                            <h5>3. Get your job</h5>
                            <p></p>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </div>
    <!-- How  Apply Process End-->

</main>
<footer>
    <!-- Footer Start-->
    <div class="footer-area footer-bg footer-padding">
        <div class="container">
            <div class="row d-flex justify-content-between">
                <div class="col-xl-3 col-lg-3 col-md-4 col-sm-6">
                    <div class="single-footer-caption mb-50">
```

```html
            <div class="single-footer-caption mb-30">
               <div class="footer-tittle">
                  <h4>About Us</h4>
                  <div class="footer-pera">
                     <p> Connect the world's professionals to make them more
productive and successful.</p>

                  </div>
               </div>
            </div>
         </div>
         <div class="col-xl-3 col-lg-3 col-md-4 col-sm-5">
            <div class="single-footer-caption mb-50">
               <div class="footer-tittle">
                  <h4>Contact Info</h4>
                  <ul>
                     <li>
                     <p>Address :<br>
                        2, jobfinds  ltd,
                        <br>
                        Anna Nagar,
                        <br>madurai</p>

                     </li>
                     <li><a href="#">Phone : +99999 99999</a></li>
                     <li><a href="#">Email : info@jobfinder.com</a></li>
</ul>
               </div>
            </div>
         </div>
         <!-- footer-bottom area -->
   <div class="footer-bottom-area footer-bg">
      <div class="container">
         <div class="footer-border">
            <div class="row d-flex justify-content-between align-items-center">
               <div class="col-xl-10 col-lg-10 ">
                  <div class="footer-copy-right">
                     <p>
Copyright &copy;<script>document.write(new Date().getFullYear());</script> All
 rights reserved
</p>
                  </div>
               </div>
```

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

        </div>
      </div>
      <!-- Footer End-->
    </footer>
<!-- JS here -->

                <!-- All JS Custom Plugins Link Here here -->
    <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/vendor/modernizr-
3.5.0.min.js"></script>
                <!-- Jquery, Popper, Bootstrap -->
                <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/vendor/jquery-
1.12.4.min.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/popper.min.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/bootstrap.min.js"></script>
            <!-- Jquery Mobile Menu -->
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.slicknav.min.js"></s
cript>
                <!-- Jquery Slick , Owl-Carousel Plugins -->
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/owl.carousel.min.js"></scri
pt>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/slick.min.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/price_rangs.js"></script>
                <!-- One Page, Animated-HeadLin -->
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/wow.min.js"></script>
                <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/animated.headline.js"></script>
```

```
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.magnific-
popup.js"></script>
                    <!-- Scrollup, nice-select, sticky -->
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.scrollUp.min.js"></
script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.nice-
select.min.js"></script>
                    <script src="./assets/js/jquery.sticky.js"></script>


    <!-- contact js -->
        <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/contact.js"></script>
        <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/jquery.form.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.validate.min.js
"></script>
        <script src="http://s3.jp-tok.cloud-object-
storage.appdomain.cloud/jobportalwebsite/assets/js/mail-script.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/jquery.ajaxchimp.min.js">
</script>


                    <!-- Jquery Plugins, main Jquery -->
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/plugins.js"></script>
    <script src="http://s3.jp-tok.cloud-
objectstorage.appdomain.cloud/jobportalwebsite/assets/js/main.js"></script>


    <script>
      window.watsonAssistantChatOptions = {
        integrationID: "65c01ed6-9fc1-4883-979a-3676279ebe44", // The ID of this
integration.
        region: "us-south", // The region your integration is hosted in.
serviceInstanceID: "8fcd017f-a192-420a-aafc-18cb0330efca", // 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>
```
**GitHub Link:**

**https://github.com/IBM-EPBL/IBM-Project-19061-1659692658**

**Project Demo video Link:**

**https://drive.google.com/file/d/1n-**
**WHRiJkzmLcRR8Tqw3KMIPF2ZbGCl0r/view?usp=drivesdk**

**Project link:**

https://abinayamathi.github.io/