**SKILL / JOB RECOMMENDER APPLICATION**

**A PROJECT REPORT**

*Submitted by,*

*(Team ID: PNT2022TMID32888)*

|  |  |
| --- | --- |
| **ALEX S** | 820419104006 |
| **GOWTHAM E** | 820419104022 |
| **GURUHARAN S** | 820419104023 |
| **NANDHINI V** | 820419104039 |

*In partial fulfillment for the award of the degree*

*of*

**BACHELOR OF ENGINEERING**

IN

COMPUTER SCIENCE

**ANJALAI AMMAL MAHALINGAM ENGINEERING COLLEGE, KOVILVENNI**

**Skill / Job Recommender Application**

**1. INTRODUCTION**

**1**.**1 Project Overview**

Nowadays, the job search is a task commonly done on the Internet using job search engine sites like LinkedIn1, Indeed, and others. Commonly, a job seeker has two ways to search for a job using these sites: 1) doing a query based on keywords related to the job vacancy that he/she is looking for, or 2) creating and/or updating a professional proﬁle containing data related to his/her education, professional experience, professional skills and other, and receive personalized job recommendations based on this data. Sites providing support to the former case are more popular and have a simpler structure; however, their recommendations are less accurate than those of the sites using proﬁle data.

**1.2 PROJECT PURPOSE**

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

**2. LITERATURE SURVEY**

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

To develop an end-to-end web application capable of displaying the current job openings based on the skillset of the users. The users and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. User will interact with the chatbot and can get recommendations based on their skills.

**2.1.EXISTING PROBLEM**

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

**2.2 REFERENCES**

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

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

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

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

**2.3.PROBLEM STATEMENT DEFINITION**

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

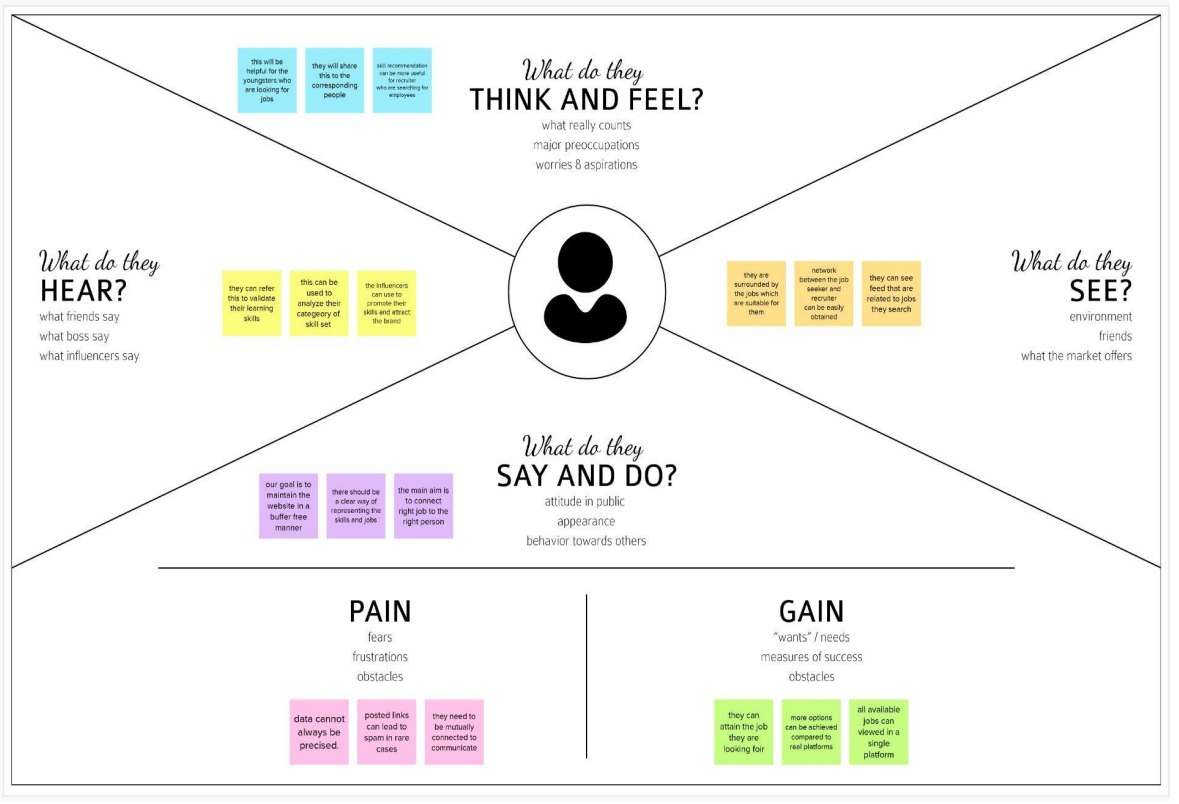
A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you’ll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Problem Statement (PS)** | **I am (Customer)** | **I’m trying to** | **But** | **Because** | **Which makes me feel** |
| PS-1 | Alex aged 20 | Get a job for myself | I can’t be able to find the perfect job | Of the lack of advertisement about the vacancies | Frustrated |
| PS-2 | Guruharan who is working as an HR manager | Hire freshers with smart skills | It is hard for me to hire them within a short period | Lack of required details about the candidates | Like a huge task. |
| PS-3 | Gowtham who is an application developer | Refer a current job offer | I can’t able to get the perfect list of offers | Shortage of quality in the recommendation system | Hopeless |

**3. IDEATION & PROPOSED SOLUTION**

**3.1. EMPATHY MAP CANVAS**

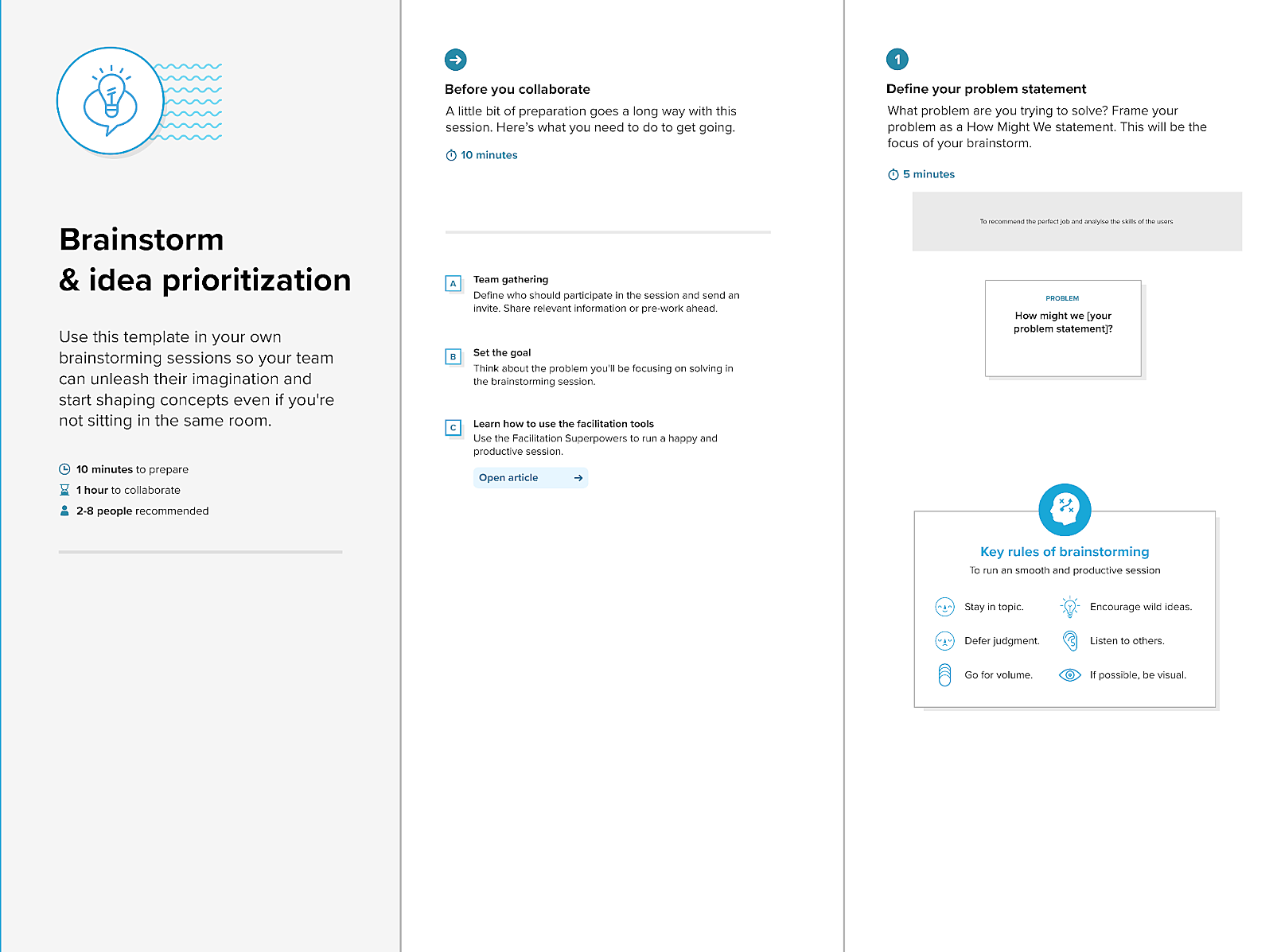
* An empathy map is a simple, easy-to-digest visual that captures knowledge about a user’s behaviors and attitudes.
* It is a useful tool to help teams better understand their users.
* Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user’s perspective along with his or her goals and challenges.
* An empathy map is a **visual map** where the team member has to identify with different feelings, emotions, needs, goals, etc. of the target audience they are designed for. It helps the team to empathize with their users and understand their problems in order to design better products or services for them.



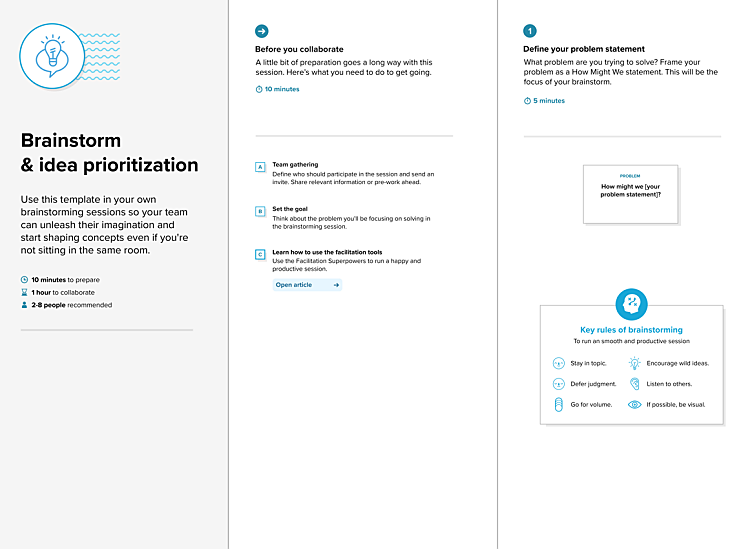
**3.2** . **IDEATION BRAINSTORMING**

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

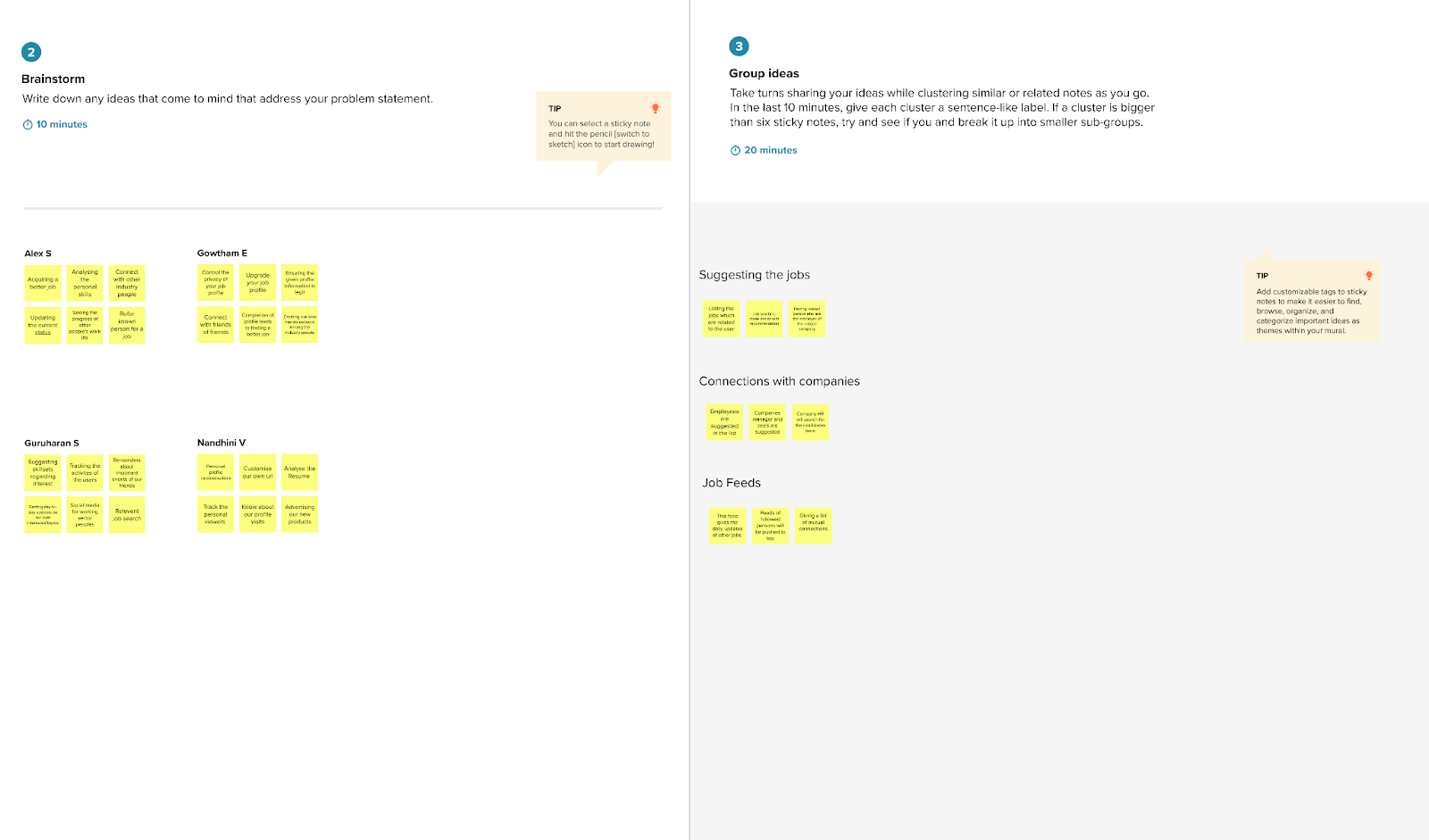
Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.



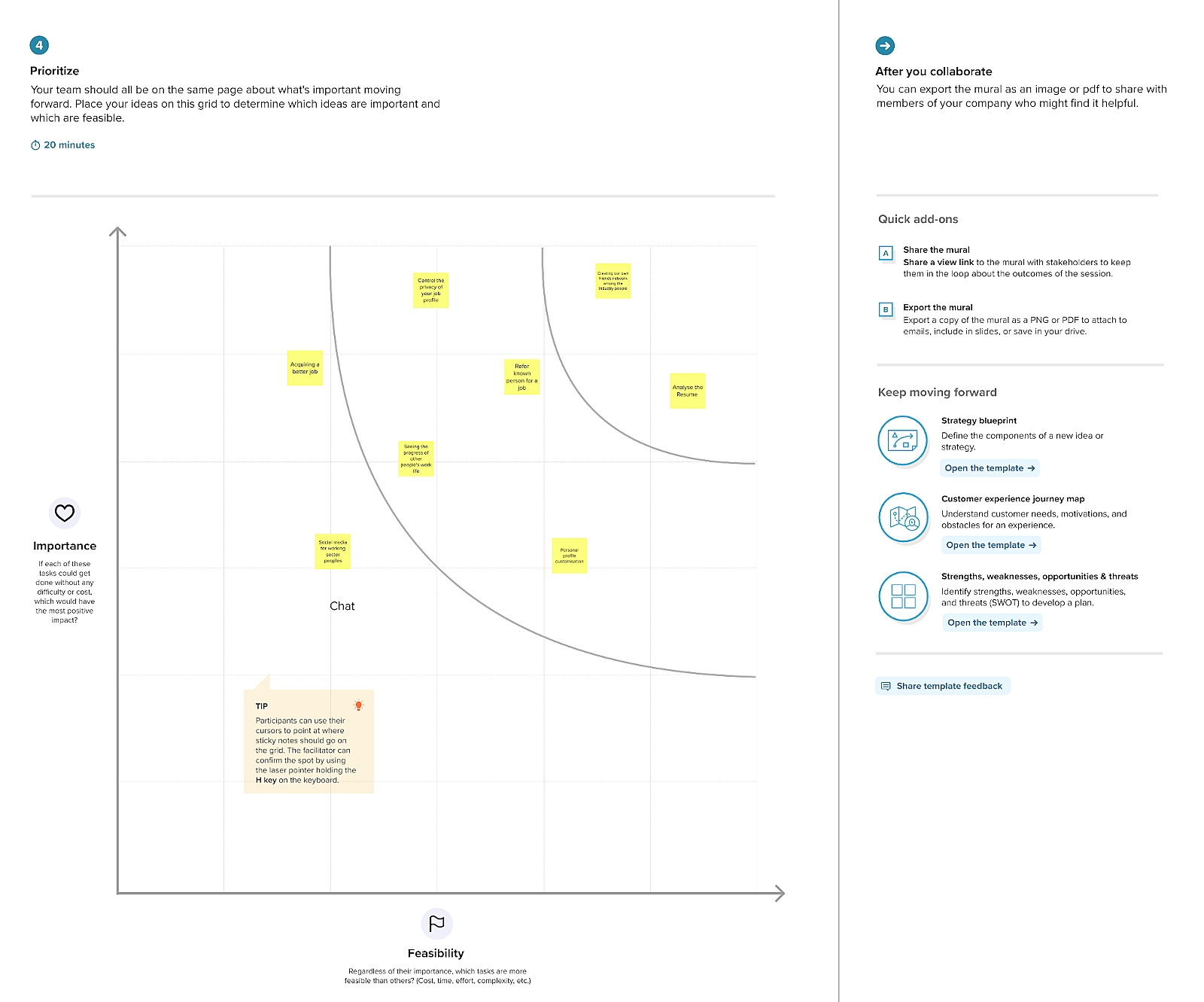
**Step-1: Team Gathering, Collaboration and Select the Problem Statement**



**Step-2: Brainstorm, Idea Listing and Grouping**



**Step-3:idea prioritization**



**3.3**. **Proposed Solution**

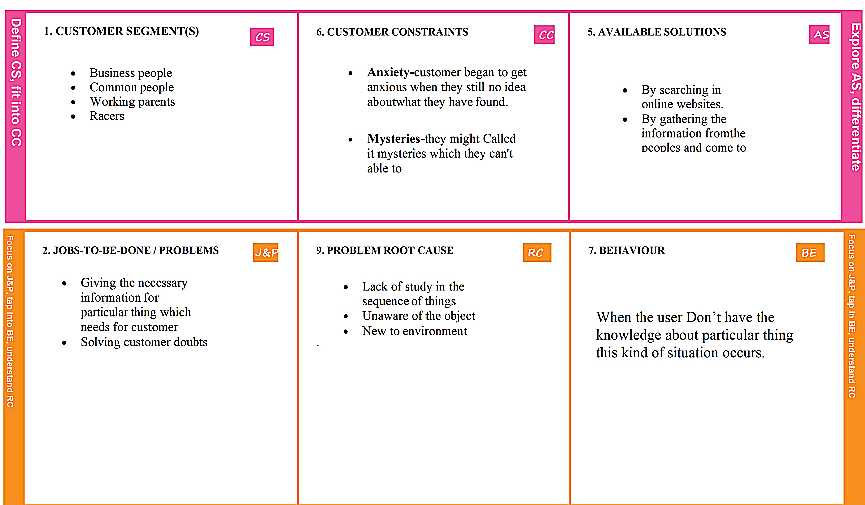
**Proposed Solution Template:**

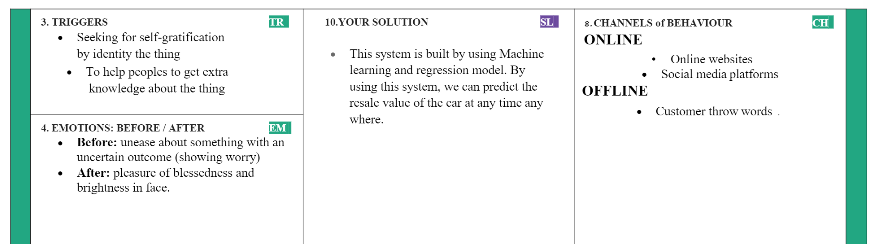
Project team shall fill in the following information in the proposed solution template.

|  |  |  |
| --- | --- | --- |
| **S.No** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be solved) | Currently, if anyone wants to sell their car, they have to take their car to a respective company workshop or have to make an appointment for the company to get an estimate of the price. This process involves of  a lot of time and resources. |
| 2. | Idea / Solution description | Especially for the first timers, a used purchase is more practical and affordable at the same time. Unless you really want the latest car in the market or that new car smell is all you are looking for, a used car can very well cater to almost all types of buyers quite conveniently |
| 3. | Novelty / Uniqueness | Looks Matter for A Better Car Resale Value. A Service Ensures Good Car Resale Value. Keep All Papers in Place. Novelty is car resale  Get Phone Numbers, Address, Photos, Maps of Novelty Tata. |
| 4. | Social Impact / Customer Satisfaction | Became obsessed with customer feedback, Create a sense of convenience, Deliver fast responses, satisfaction is a company –wide focus. Customer Satisfaction Look and Style Fuel consumption Pulling Power Seating Capacity Riding Comfort Safety Features Speed Shock Absorbs & transmission Tyre mileage Braking EfficiencyTyre mileage Braking Efficiency |
| 5. | Business Model (Revenue Model) | How to start a car merchant business. Generally, it is considered that if you want to start a car merchant business, you need a huge capital to invest. Dealer license. Location of the business. Keep a watch on the market. Make your catalog. Use a perfect marketing strategy. |

|  |  |  |
| --- | --- | --- |
| 6. | Scalability of the Solution | The size of the used car market in India was over 4.4 million units in 2020, according to Statista.  The startup has managed to strive ahead by leveraging a robust managed marketplace business model, while proving that it is economically viable and independent of scale due to the use of technology, economy of scale, economy of scope, asset light, and network  effects. |

**3.4** **PROBLEM-SOLUTION FIT**





**4**. **REQUIREMENT ANALYSIS**

**4.1 FUNCTIONAL REQUIREMENTS**

Following are the functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form |
| FR-2 | User Confirmation | Confirmation via site |
| FR-3 | User Login | Login via Email Login via password |
|  |  |  |

**4.2 NON FUNCTIONAL REQUIREMENTS**

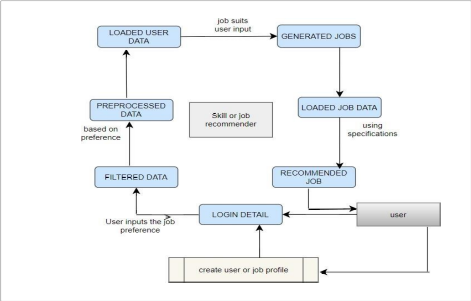
Following are the non-functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Predicting the resale value |
| NFR-2 | **Security** | Providing security to the website |
| NFR-3 | **Reliability** | Providing high reliability by predicting values for different types of cars |
| NFR-4 | **Performance** | Providing high performance by using some machine learning techniques |
| NFR-5 | **Availability** | It is used for all types of jobs |
| NFR-6 | **Scalability** | Predicting values for different types of jobs |

**5. PROJECT DESIGN**

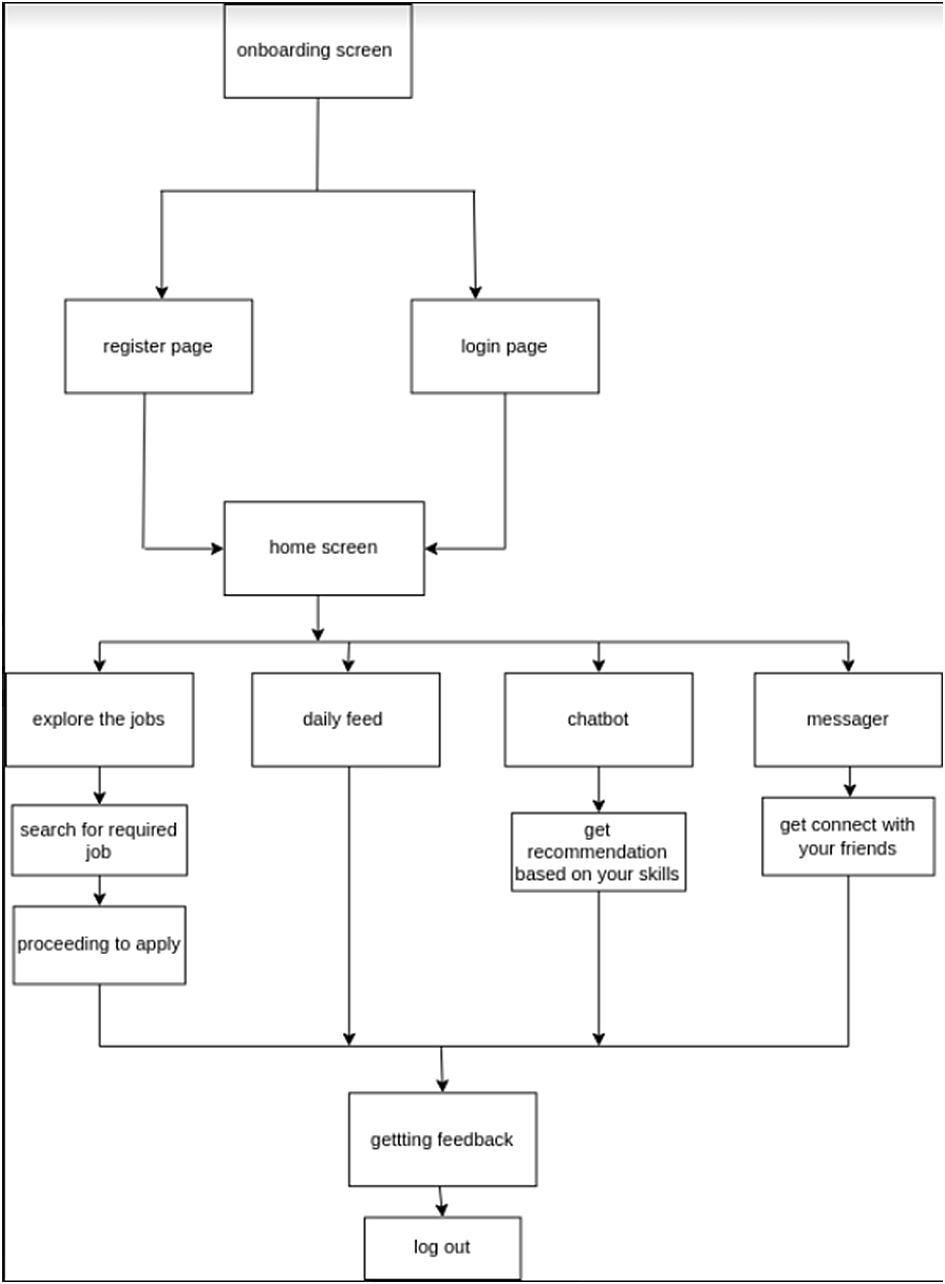
**5.1 DATA FLOW DIAGRAM**

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



**FLOW OF THE PROCESS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **User Type** | **Functional**  **Requirement (Epic)** | **User Story Number** | **User Story / Task** | **Acceptance criteria** | **Priority** | **Release** |
| Job Seeker(Mobile user) | Registration | USN-1 | As a user, I can register for the application 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 | I can register & access the  application through G-mail | Medium | Sprint-1 |
|  | Login | USN-5 | As a user, I can log into the application by entering email & password | I can log into the application by entering email &  password | High | Sprint-1 |
|  | Dashboard | USN-6 | As a user, I can register & access the dashboard with Facebook Login | I can access the dashboard thorugh facebook login and  get access to various tools | Medium | Sprint-1 |
| Customer (Web user) | Registration | USN-6 | 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 |
| Customer Care Executive | Access | USN-7 | As a user, I can connect to the custmer care executive through contact number or email. | I can connect to the custmer care executive and clarify my doubts through contact  number or email. | High | Sprint-1 |
| Administrator | Document verification | USN-8 | As a user, I can get my details and documents verified virtually from the comfort of my home. | , I can get my details and documents verified virtually  from the comfort of my home. | High | Sprint-1 |
|  | Login verification | USN-9 | As a user, I can get my login details verified virtually from the comfort of my home through OTP. | I can get my login details verified virtually from the comfort of my home through  OTP. | High | Sprint-1 |

**5.2 Solution & Technical Architecture**

**5.3 User Stories**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance Criteria | Priority | Release |
| Job Seeker (Mobile user) | Registration | USN-1 | As a user, I can register for the application bye entering my email, password, and confirming my password. | I can access my account / dashboard | High | Sprint-1 |
|  |  | USN-2 | As a user, I will receive confirmation email once I have registered for the application | I can receive confirmation email & click confirm | High | Sprint-1 |
|  |  | USN-3 | As a user, I can register for the application through Facebook | I can register & access the dashboard with Facebook Login | Low | Sprint-2 |
|  |  | USN-4 | As a user, I can register for the application through Gmail |  | Medium | Sprint-1 |
|  | Login | USN-5 | As a user, I can log into the application by entering email & password |  | High | Sprint-1 |
|  | Dashboard | USN-6 | As a user, I can access the dashboard for jobs to search | I can access the dashboard | High | Sprint-1 |
| Job Seeker (Web user) | Login | USN-7 | As a user, I can log into the application by entering email & password | I can log into the account I have created | High | Sprint-1 |
| Administrator | Registration | USN-8 | As a administrator, I can see the registration details | I can access the registration details | High | Sprint-1 |
|  | Login | USN-9 | As a administrator, I can see the login details | I can access the login details | High | Sprint-1 |
|  | Dashboard | USN-10 | As a administrator, I can update the dashboard | I can update the dashboard | High | Sprint-1 |

**6. PROJECT PLANNING & SCHEDULING**

**6.1 Sprint Planning & Estimation**

**Product Backlog, Sprint Schedule, and Estimation**

Use the below template to create product backlog and sprint schedule

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

**6.2 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 | 24 Oct 2022 | 29 Oct 2022 | 20 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | 20 | 05 Nov 2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | 20 | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | 20 | 19 Nov 2022 |

**6.3 Reports from JIRA**

**Burndown Chart**:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile [software development](https://www.visual-paradigm.com/scrum/what-is-agile-software-development/) methodologies such as [Scrum](https://www.visual-paradigm.com/scrum/scrum-in-3-minutes/). However, burn down charts can be applied to any project containing measurable progress over time



**7. CODING & SOLUTIONING**

**7.1 Feature 1**

<script>

window.watsonAssistantChatOptions = {

integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.

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

serviceInstanceID: "9f2196de-4c2c-4b82-874b-9768ad3501e4", // The ID of your service instance.

onLoad: function(instance) { instance.render(); }

};

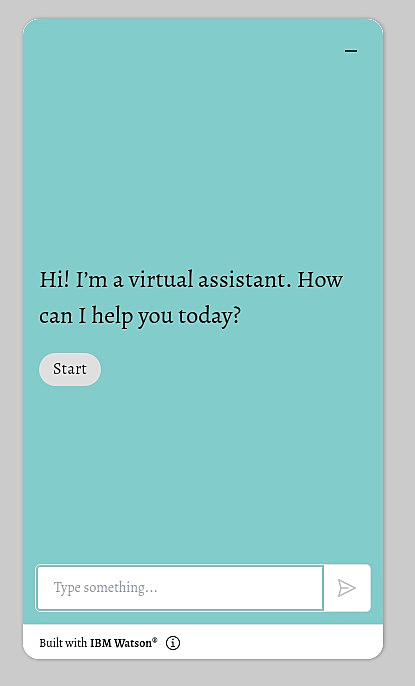
setTimeout(function(){

const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";

document.head.appendChild(t);

});



**7.2 Feature 2**

**HTML HOME PAGE:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>JOBPORTAL | HOME</title>

<meta charset="UTF-8">

<!-- Compiled and minified CSS -->

<link rel="stylesheet" href="../static/css/card.css">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/css/materialize.min.css">

<!-- Compiled and minified JavaScript -->

<script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/js/materialize.min.js"></script>

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">

<!-- bootstrap css cdn -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">

<!-- css stylesheet -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="stylesheet" href="../static/css/style.css">

<!-- font styles cdn -->

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.2.1/css/all.css" integrity="sha512-FA9cIbtlP61W0PRtX36P6CGRy0vZs0C2Uw26Q1cMmj3xwhftftymr0sj8/YeezDnRwL9wtWw8ZwtCiTDXlXGjQ==" crossorigin="anonymous" referrerpolicy="no-referrer" />

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.2.1/css/all.min.css" integrity="sha512-MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcnK1OnMGCdVK+iQrJ7lzPJQd1w==" crossorigin="anonymous" referrerpolicy="no-referrer" />

<link rel="preconnect" href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">

<link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">

</head>

<body>

<!-- bootstrap navbar -->

<nav class="navbar sticky-top navbar-expand-lg navbar-dark">

<div class="container-fluid menu">

<a class="main-logo-img mt-3" href="home"><img src="/static/img/goseek.png" alt="sheep-logo" height="180px" width="180px">

<!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->

</a>

<div class="row donate-sponsor linker" style="text-align:center;">

<a type="button" class="col-3 links" id="donate" href="login">LOGIN</a>

<a type="button" class="col-3 links" id="sponsor" href="register">REGISTER</a>

</div>

</div>

</nav>

<!-- navbar ends -->

<div class="card-container">

<div class="card">

<div class="card-box">

<div class="card-image waves-effect waves-block waves-light">

<img class="activator" src="../static/img/startup.svg" height="85px" width="85px">

</div>

<div class="card-content">

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

</div></div>

<div class="card-reveal">

<span class="card-title grey-text text-darken-4 title-col">Mission <i class="fa-solid fa-caret-down"></i></span>

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

</div>

</div>

<div class="card"> <div class="card-box">

<div class="card-image waves-effect waves-block waves-light">

<img class="activator" src="../static/img/vision.svg" height="85px" width="85px">

</div>

<div class="card-content">

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

**APP.PY FLASK:**

from flask import Flask, render\_template, request, redirect, url\_for, session

import re

import ibm\_db

import os

import json

app = Flask(\_name\_)

job=''

app.secret\_key='a'

conn = ibm\_db.connect("DATABASE=bludb;HOSTNAME=2f3279a5-73d1-4859-88f0-a6c3e6b4b907.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=30756;Security=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=nmc63120;PWD=BC9ub7wWLk2Yb8fM;",'','')

@app.route('/')

def index():

return redirect(url\_for('register'))

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

def register():

msg = ''

if request.method == 'POST':

username = request.form['username']

email = request.form['email']

password = request.form['password']

sql = "SELECT \* FROM users WHERE username =?"

stmt = ibm\_db.prepare(conn, sql)

ibm\_db.bind\_param(stmt,1,username)

ibm\_db.execute(stmt)

account = ibm\_db.fetch\_assoc(stmt)

print(account)

if account:

msg = 'Account already exists !'

return render\_template('register.html', msg = msg)

elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):

msg = 'Invalid email address !'

elif not re.match(r'[A-Za-z0-9]+', username):

msg = 'name must contain only characters and numbers !'

else:

insert\_sql = "INSERT INTO users VALUES (?, ?, ?)"

prep\_stmt = ibm\_db.prepare(conn, insert\_sql)

ibm\_db.bind\_param(prep\_stmt, 1, username)

ibm\_db.bind\_param(prep\_stmt, 2, email)

ibm\_db.bind\_param(prep\_stmt, 3, password)

ibm\_db.execute(prep\_stmt)

msg = 'You have successfully registered !'

return render\_template('login.html', msg = msg)

elif request.method == 'POST':

msg = 'Please fill out the form !'

return render\_template('register.html', msg = msg)

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

def login():

global userid

msg = ''

if request.method == 'POST' :

username = request.form['username']

password = request.form['password']

sql = "SELECT \* FROM users WHERE username =? AND password=?"

stmt = ibm\_db.prepare(conn, sql)

ibm\_db.bind\_param(stmt,1,username)

ibm\_db.bind\_param(stmt,2,password)

ibm\_db.execute(stmt)

account = ibm\_db.fetch\_assoc(stmt)

print (account)

if account:

session['loggedin'] = True

session['id'] = account['USERNAME']

userid= account['USERNAME']

session['username'] = account['USERNAME']

msg = 'Logged in successfully !'

msg = 'Logged in successfully !'

return render\_template('dashboard.html', msg = msg)

else:

msg = 'Incorrect Username / Password!'

return render\_template('login.html', msg = msg)

@app.route('/dashboard')

def dash():

return render\_template('dashboard.html')

@app.route('/display')

def display():

try:

username = session['username']

except:

return render\_template('home.html',msg='Please login first')

print(username)

sql = "SELECT \* FROM jobs WHERE username =?"

stmt = ibm\_db.prepare(conn, sql)

print(stmt)

ibm\_db.bind\_param(stmt,1,username)

ibm\_db.execute(stmt)

print(stmt)

account = ibm\_db.fetch\_assoc(stmt)

print ("display",account)

# print(session["username"],session['id'])

# sql = "SELECT username FROM jobs WHERE username =?"

# stmt=ibm\_db.prepare(conn,sql)

# ibm\_db.bind\_param(stmt,1,session['username'])

# ibm\_db.execute(stmt)

# account = ibm\_db.fetch\_assoc(stmt)

# print("accountdislay",account)

return render\_template('display.html',account = account)

@app.route('/logout')

def logout():

session['loggedin'] = False

session.pop('id', None)

session.pop('username', None)

return render\_template('home.html')

@app.context\_processor

def override\_url\_for():

return dict(url\_for=dated\_url\_for)

def dated\_url\_for(endpoint, \*\*values):

if endpoint == 'static':

filename = values.get('reg', None)

if filename:

file\_path = os.path.join(app.root\_path, endpoint, filename)

values['q'] = int(os.stat('./static/css/reg.css').st\_mtime)

return url\_for(endpoint, \*\*values)

@app.route('/home')

def home():

msg=session['loggedin']

return render\_template('home.html',msg=msg)

@app.route('/apply/<job>')

def getJob(job):

job=job

return redirect(url\_for('apply',job=job))

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

def apply():

msg=''

try:

print(session['id'])

except:

return render\_template('apply.html',msg='Something went wrong')

msg = ''

if request.method == 'POST' :

username = session['username']

email = request.form['email']

qualification= request.form['qualification']

skills = request.form['skills']

categ = request.form['s']

sql = "SELECT job FROM jobs WHERE username =?"

stmt = ibm\_db.prepare(conn, sql)

ibm\_db.bind\_param(stmt,1,username)

ibm\_db.execute(stmt)

account = ibm\_db.fetch\_assoc(stmt)

if account:

print(account)

msg = 'There is only 1 job position! for you'

return render\_template('apply.html', msg = msg)

insert\_sql = "INSERT INTO jobs VALUES (?, ?, ?, ?, ?, ?)"

prep\_stmt = ibm\_db.prepare(conn, insert\_sql)

ibm\_db.bind\_param(prep\_stmt, 1, username)

ibm\_db.bind\_param(prep\_stmt, 2, email)

ibm\_db.bind\_param(prep\_stmt, 3, qualification)

ibm\_db.bind\_param(prep\_stmt, 4, skills)

ibm\_db.bind\_param(prep\_stmt, 5, categ)

ibm\_db.bind\_param(prep\_stmt, 6, job)

ibm\_db.execute(prep\_stmt)

msg = 'You have successfully applied for '+job+' !'

session['loggedin'] = True

TEXT = "Hello, a new application for job position" ,job," is requested"

return render\_template('dashboard.html', msg = msg)

elif request.method == 'POST':

msg = 'Please fill out the form !'

if request.json != None:

session['job'] = request.json

session['job'] = session.get['job',None]

return render\_template('apply.html', msg = msg)

if \_name\_ == '\_main\_':

job=""

app.run(debug=True)

**APPLY.HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>JOBPORTAL | APPLY</title>

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">

<!-- bootstrap css cdn -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">

<!-- css stylesheet -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="stylesheet" href="../static/css/style.css">

<!-- font styles cdn -->

<link rel="preconnect" href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">

<link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">

</head>

<body>

<!-- bootstrap navbar -->

<nav class="navbar sticky-top navbar-expand-lg navbar-light">

<div class="container-fluid menu">

<a class="main-logo-img mt-3" href="home"><img src="static/img/goseek.png" alt="sheep-logo" height="180px" width="180px">

<!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->

</a>

<button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">

<span class="navbar-toggler-icon"></span>

</button>

<div class="row donate-sponsor dash">

<a type="button" class="col-6 links" id="donate" href="/logout">LOGOUT</a>

<a type="button" class="col-6 links" id="sponsor" href="display">MY JOBS</a>

</div>

</div>

</nav>

<!-- navbar ends -->

<!-- Login form -->

<div class="login text-center mt-5">

<h2>Apply Now</h2>

<div class="msg">{{msg}}</div>

<form action="/apply" method="post" class="mt-3">

<input type="email" name="email" placeholder="Enter Your Email" id="email" required></br></br>

<input type="text" name="qualification" placeholder="Enter Your Qualification" id="qualification" required></br></br>

<input type="text" name="skills" placeholder="Enter Your Skills" id="skills" required></br></br>

<select name ="s">

<option value ="PYTHON"> Python</option>

<option value ="ML"> ML</option>

<option value ="AI"> AI</option>

</select>

</br></br>

<button style="width: 15%;

margin-left: auto;

margin-right: auto;" type="submit" id="button" class="btn btn-primary"> Submit</button>

</form>

</div>

<div class="note mt-3 text-center">

<p> Click here to go to dashboard <a href="dashboard">Dashboard! </a> </p>

</div>

<div class="alert">{{msg}}</div>

<script>

window.watsonAssistantChatOptions = {

integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.

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

serviceInstanceID: "9f2196de-4c2c-4b82-874b-9768ad3501e4", // The ID of your service instance.

onLoad: function(instance) { instance.render(); }

};

setTimeout(function(){

const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";

document.head.appendChild(t);

});

</script>

</body>

</html>

**LOGIN.HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>JOBPORTAL | LOGIN</title>

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="preconnect" href="https://fonts.googleapis.com">

<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>

<link href="https://fonts.googleapis.com/css2?family=Secular+One&display=swap" rel="stylesheet">

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">

<!-- bootstrap css cdn -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">

<!-- css stylesheet -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="stylesheet" href="../static/css/style.css">

<!-- font styles cdn -->

<link rel="preconnect" href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">

<link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">

</head>

<body>

<div class="main">

<div class="user">

<div class="logo"><img src="../static/img/goseek.png" alt="tie" height="180px" width="180px"></div>

<header class="user\_header"><h1 class="user\_title">Login</h1></header>

<form action="login" class="form" method="post">

<div class="form\_group"><input type="text" name="username" placeholder="Enter Your Username" id="username" class="form\_input" required /></div>

<div class="form\_group"><input type="password" name="password" placeholder="Enter Your Password" id="password" class="form\_input" required /></div><br>

<button class="btn" type="submit">Login</button>

</form>

</div>

<div class="note text-center">

<p>Don't have an account?<a href="register">Register</a></p>

</div>

<div class="alert"><p><b>{{msg}}</b>

</p>

</div>

</div>

<script>

window.watsonAssistantChatOptions = {

integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.

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

serviceInstanceID: "9f2196de-4c2c-4b82-874b-9768ad3501e4", // The ID of your service instance.

onLoad: function(instance) { instance.render(); }

};

setTimeout(function(){

const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";

document.head.appendChild(t);

});

</script>

</body>

</html>

**REGISTER.HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>JOBPORTAL | LOGIN</title>

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="preconnect" href="https://fonts.googleapis.com">

<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>

<link href="https://fonts.googleapis.com/css2?family=Secular+One&display=swap" rel="stylesheet">

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">

<!-- bootstrap css cdn -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">

<!-- css stylesheet -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="stylesheet" href="../static/css/style.css">

<!-- font styles cdn -->

<link rel="preconnect" href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">

<link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">

</head>

<body>

<div class="main">

<div class="user">

<div class="logo"><img src="../static/img/goseek.png" alt="tie" height="180px" width="180px"></div>

<header class="user\_header"><h1 class="user\_title">Register</h1></header>

<form action="register" class="form" method="post">

<div class="form\_group"><input type="text" name="username" placeholder="Enter Your Username" id="username" class="form\_input" required /></div>

<div class="form\_group"><input type="email" name="email" placeholder="Enter Your Email ID" id="email" class="form\_input" required/></div>

<div class="form\_group"><input type="password" name="password" placeholder="Enter Your Password" id="password" class="form\_input" required /></div><br>

<button class="btn" type="submit">Register</button>

</form>

</div>

<div class="note text-center">

<p>Already have an account? <a href="login">Login</a></p>

</div>

<div class="alert">

<p><b>{{msg}}</b></p>

</div>

</div>

<script>

window.watsonAssistantChatOptions = {

integrationID: "e22dcd16-3b9c-407a-90dc-0d175d6708eb", // The ID of this integration.

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

serviceInstanceID: "9f2196de-4c2c-4b82-874b-9768ad3501e4", // The ID of your service instance.

onLoad: function(instance) { instance.render(); }

};

setTimeout(function(){

const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";

document.head.appendChild(t);

});

</script>

</body>

</html>

**HOME.HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>JOBPORTAL | HOME</title>

<meta charset="UTF-8">

<!-- Compiled and minified CSS -->

<link rel="stylesheet" href="../static/css/card.css">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/css/materialize.min.css">

<!-- Compiled and minified JavaScript -->

<script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/js/materialize.min.js"></script>

<!-- favicon -->

<!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->

<link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">

<!-- bootstrap css cdn -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">

<!-- css stylesheet -->

<link rel="stylesheet" href="../static/css/reg.css">

<link rel="stylesheet" href="../static/css/style.css">

<!-- font styles cdn -->

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.2.1/css/all.css" integrity="sha512-FA9cIbtlP61W0PRtX36P6CGRy0vZs0C2Uw26Q1cMmj3xwhftftymr0sj8/YeezDnRwL9wtWw8ZwtCiTDXlXGjQ==" crossorigin="anonymous" referrerpolicy="no-referrer" />

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.2.1/css/all.min.css" integrity="sha512-MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcnK1OnMGCdVK+iQrJ7lzPJQd1w==" crossorigin="anonymous" referrerpolicy="no-referrer" />

<link rel="preconnect" href="https://fonts.gstatic.com">

<link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">

<link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">

</head>

<body>

<!-- bootstrap navbar -->

<nav class="navbar sticky-top navbar-expand-lg navbar-dark">

<div class="container-fluid menu">

<a class="main-logo-img mt-3" href="home"><img src="/static/img/goseek.png" alt="sheep-logo" height="180px" width="180px">

<!-- <a class="navbar-brand" href="index.html">JobPortal</a> -->

</a>

<div class="row donate-sponsor linker" style="text-align:center;">

<a type="button" class="col-3 links" id="donate" href="login">LOGIN</a>

<a type="button" class="col-3 links" id="sponsor" href="register">REGISTER</a>

</div>

</div>

</nav>

<!-- navbar ends -->

<div class="card-container">

<div class="card">

<div class="card-box">

<div class="card-image waves-effect waves-block waves-light">

<img class="activator" src="../static/img/startup.svg" height="85px" width="85px">

</div>

<div class="card-content">

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

</div></div>

<div class="card-reveal">

<span class="card-title grey-text text-darken-4 title-col">Mission <i class="fa-solid fa-caret-down"></i></span>

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

</div>

</div>

<div class="card"> <div class="card-box">

<div class="card-image waves-effect waves-block waves-light">

<img class="activator" src="../static/img/vision.svg" height="85px" width="85px">

</div>

<div class="card-content">

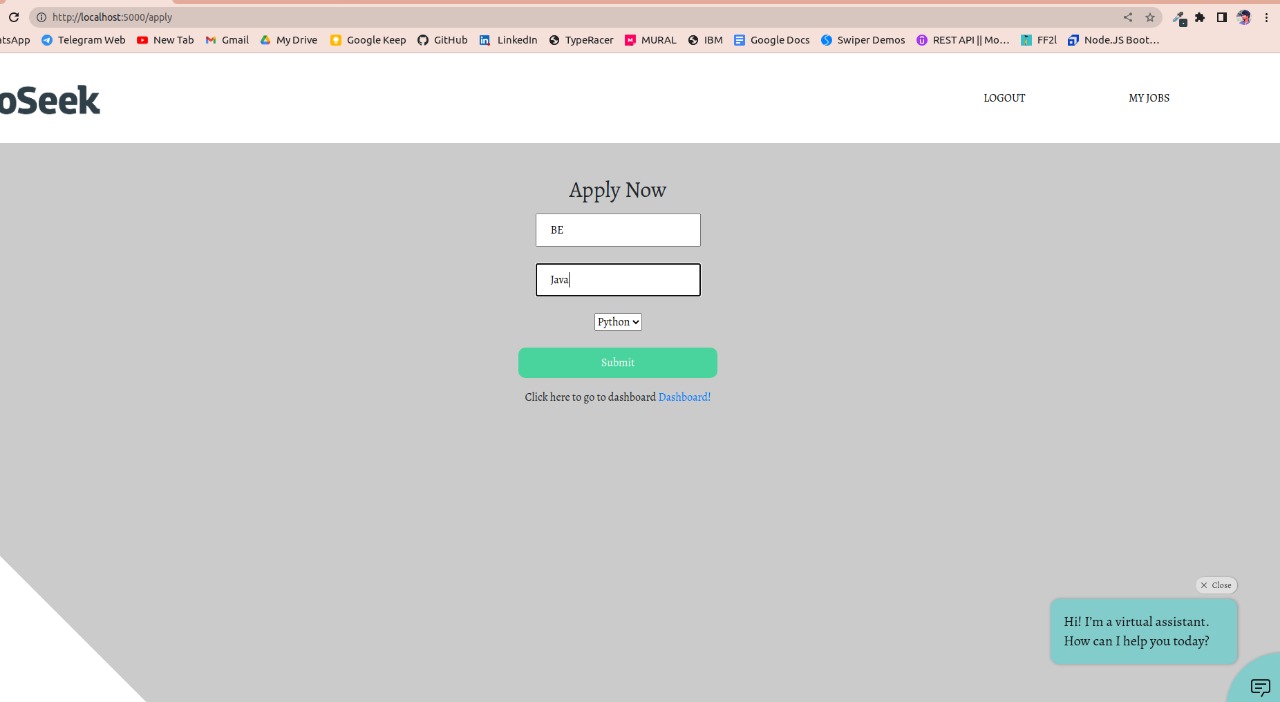
<span class="card-title activator grey-text text-darken-4 title-col">Vision </span>

**8. TESTING:**

**8.1 Test Cases:**

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

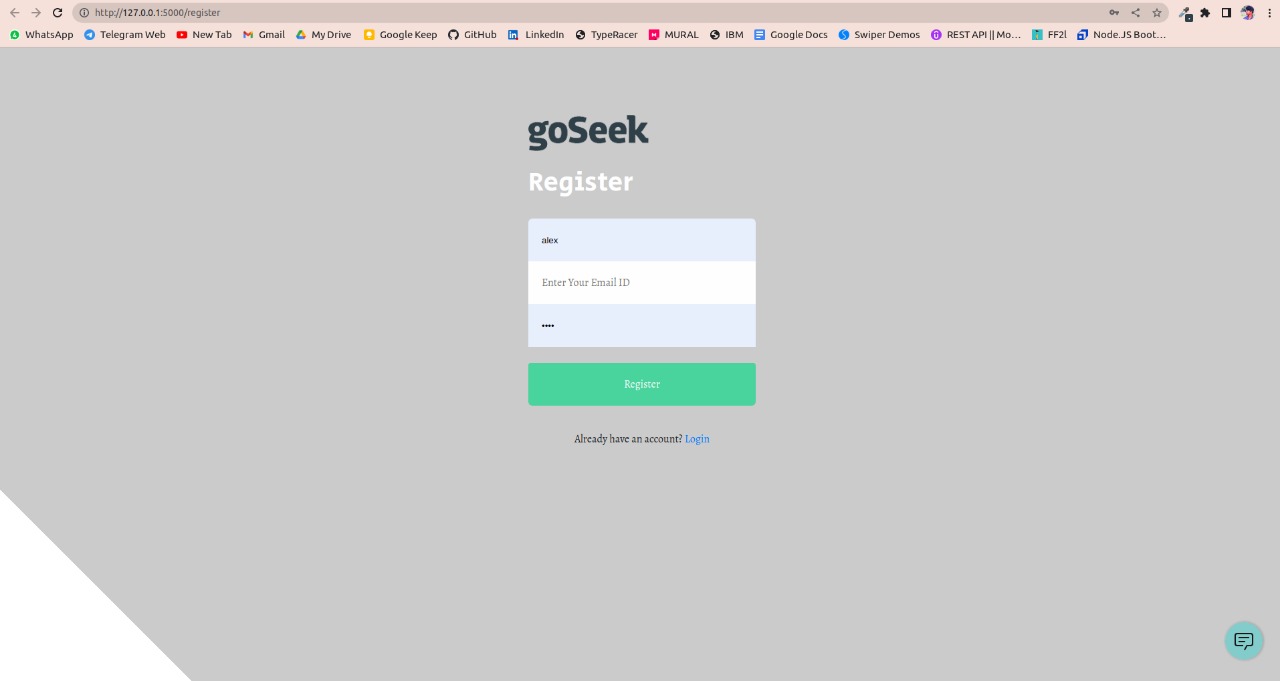
**8.2 User Acceptance Testing:**

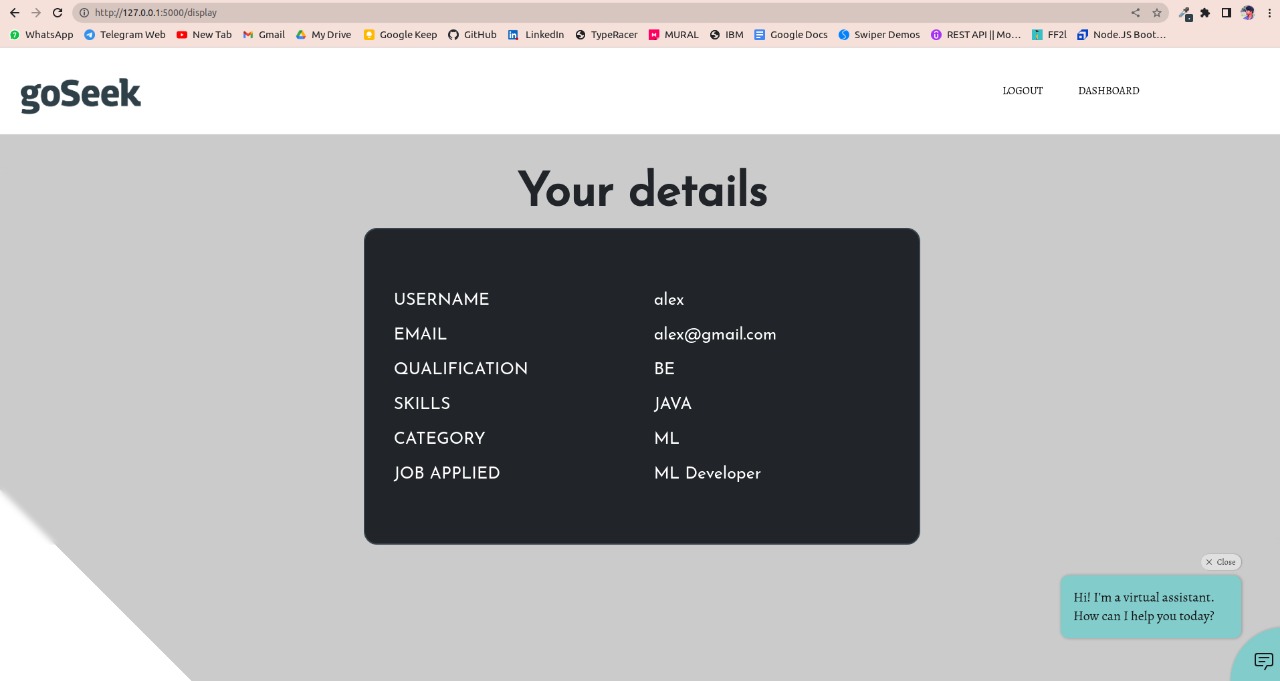


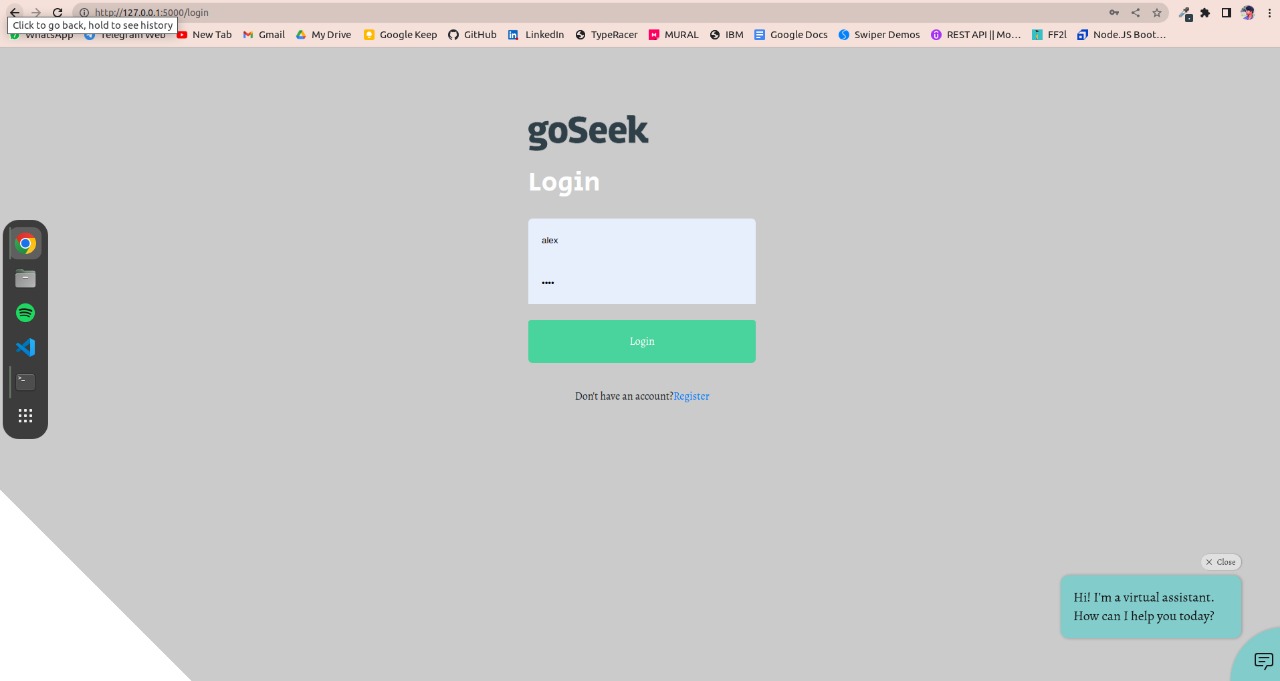
**9. RESULTS**

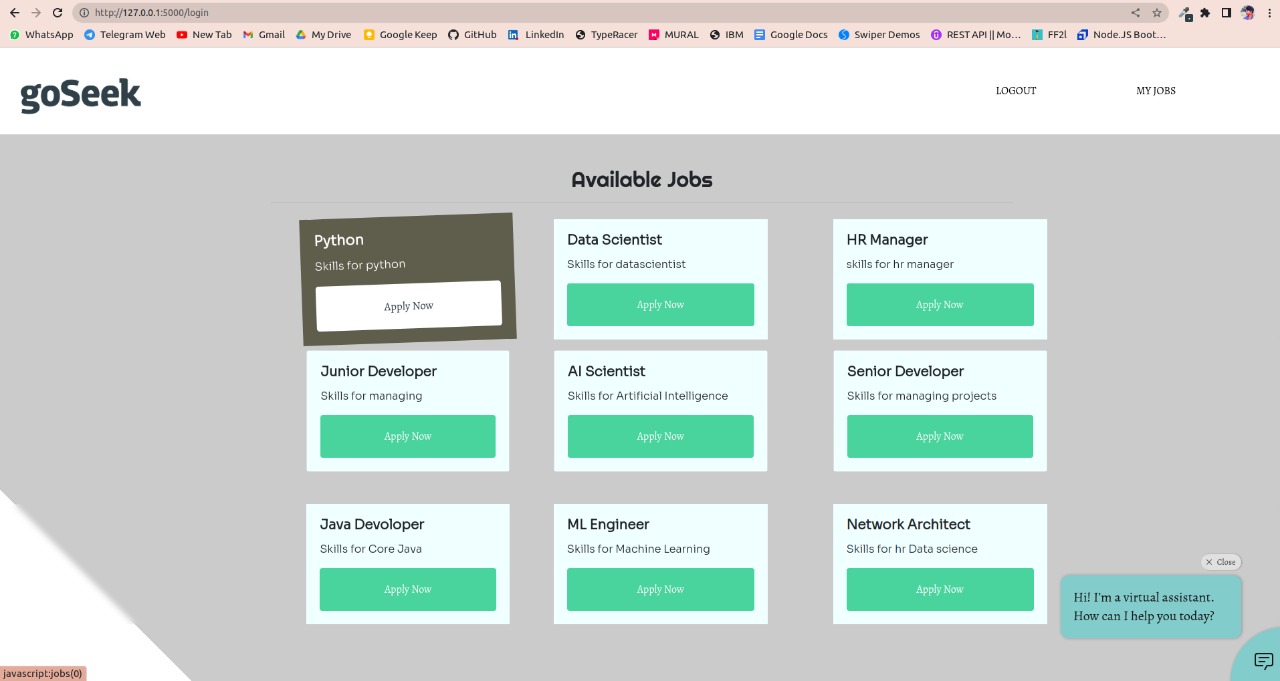
**9.1 Performance Metrics**

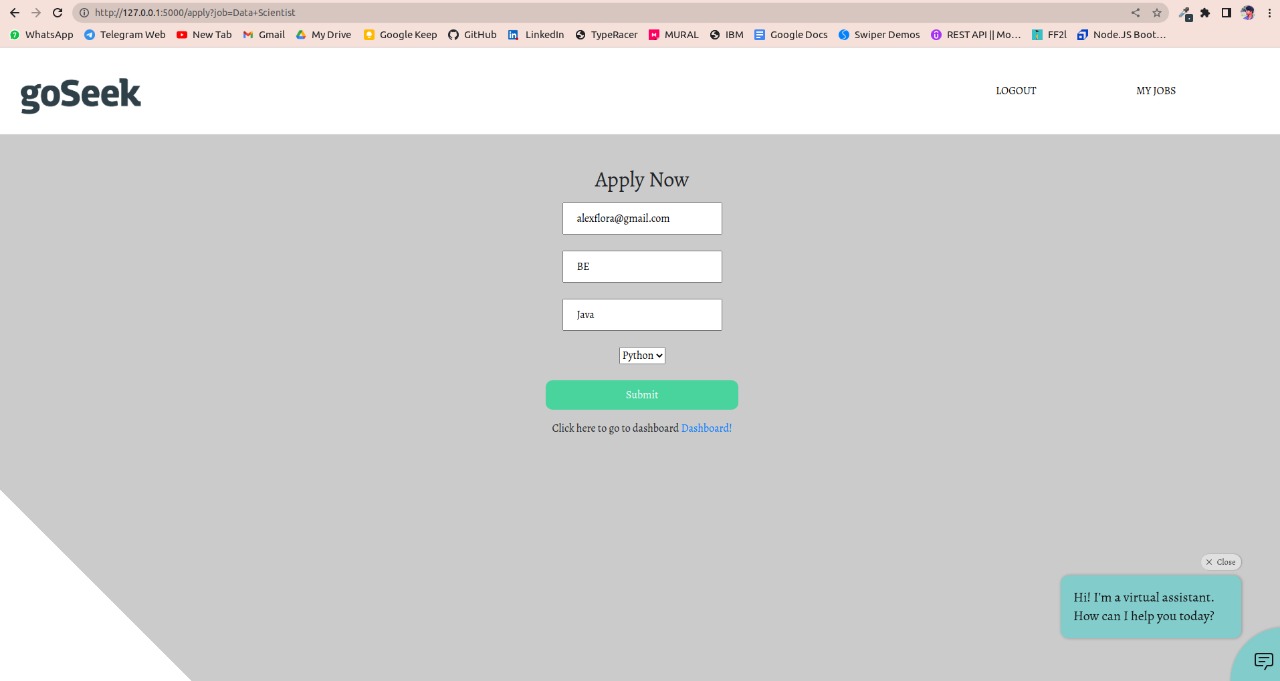
Metrics considered to test the strength of the algorithm are Mean Absolute Error, Mean Squared Error, and Root Mean Squared Error. These three metrics are used to evaluate both regression algorithms. The three metrics have lower values for Xgboost, hence it has higher accuracy over the random forest algorithm. Table 1 shows the result analysis of both algorithms.

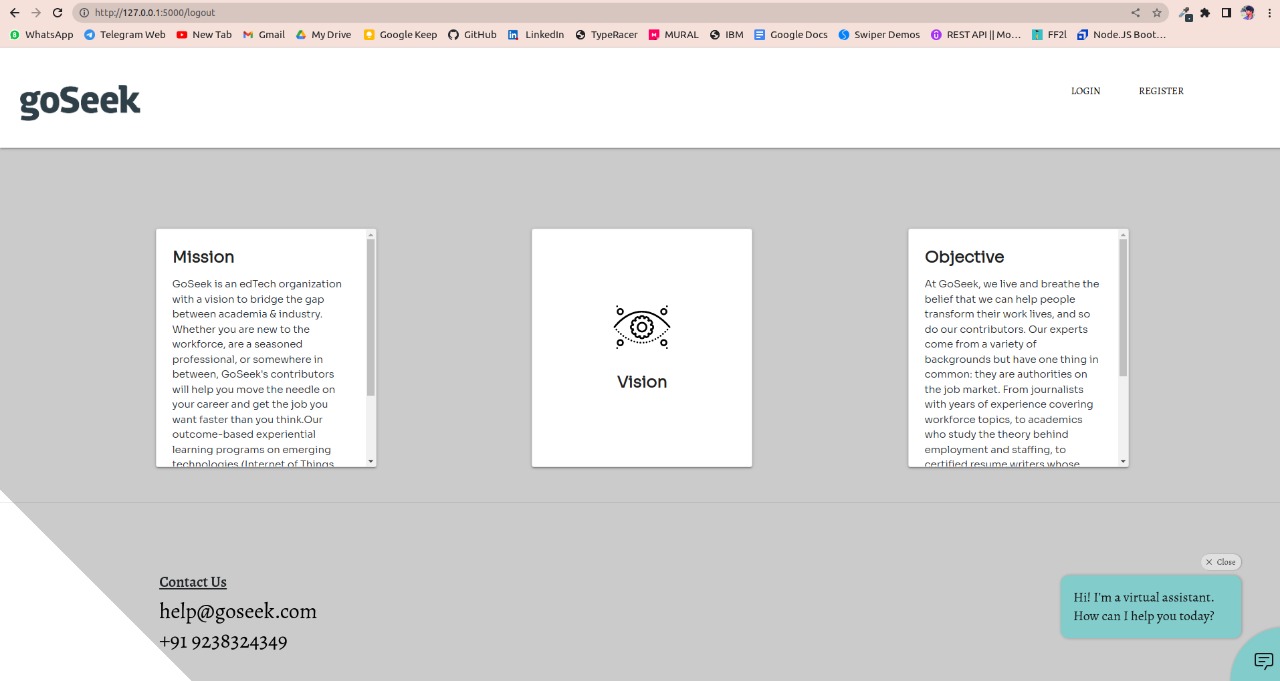












**10. ADVANTAGES & DISADVANTAGES**

**Advantages and Disadvantages of the Job Recommender System**

i It assists with limiting the ideal opportunity for picking and choosing the items from online condition so without any problem.

ii Decision-production processes are redesigned as a result of the recommender framework.

iii It gives a way to users to get their customized proposal without burning through a great deal of time.

iv It is utilized in such huge numbers of different areas, (for example, books, media, places of work, travel, games, eatery, and so forth.) to suggest to the clients.

v Job recommender framework gives a way for job seekers to get their relevant jobs and recruiters to get their skilled employees.

**11. CONCLUSION**

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

**12. FUTURE SCOPE**

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

**13. APPENDIX**

Source: <https://github.com/IBM-EPBL/IBM-Project-6822-1658839004>