

SKILL AND JOB RECOMMENDER

IBM NAALAIYA THIRAN

(TEAM ID:PNT2022TMID13365)

A PROJECT REPORT

Submitted by

RANJITH KUMAR (951919CS082)

VIGNESH B (951919CS111)

SANJAI KUMAR (951919CS084)

DAVID ALWIN (951919CS016)

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE ENGINEERING

P.S.R. ENGINEERING COLLEGE

SIVAKASI – 626 140



NOVEMBER- 2022

BONAFIDE CERTIFICATE

Certified that this project report “**SKILL AND JOB RECOMMENDER**” is the bonafide work of **RANJITH KUMAR (951919CS082)**, **VIGNESH B (951919CS111)**, **SANJAI KUMAR (951919CS084)**, **DAVID ALWIN (951919CS016)** who carried out the **IBM NAALAIYA THIRAN** project work under our supervision.

Industry Mentor

(Krishna Chaitanya, IBM)

Faculty Mentor

(Ms. A. Ishwariya/AP)

Faculty Evaluator

(Dr. P.Kavitha/Assoc Prof)

Head of the Department/CSE

(Dr. A. Ramathilagam)

ACKNOWLEDGEMENT

We take this opportunity to all those who helped towards successful completion of this mini project. At the very outset we thank the almighty for his profuse blessings showered on us.

We thank our beloved parents whose encouragement and support help us to complete our project successfully.

We wish to express our cordial gratitude to our Honorable correspondent Thiru. R. SOLAISAMY and our beloved Director Er. S. VIGNESWARI ARUNKUMAR, B.Tech., our Respected Principal Dr. B. G. VISHNURAM., M.E., Ph.D., FIV., FIE., for the pronage excellent facilities provided for d in during the project.

We extend our sincere thanks to our adored Head of the Department and guide, Dr. A. RAMATHILAGAM M.E., Ph.D., for his encouragement and guidance.

We also wish to express our sincere thanks to our project Coordinator Ms. A. ISHWARIYA M.E., Assistant Professor for having helped us in all aspects.

We also bound to thanks to all Faculty and Non-teaching staff members of the Department of Computer Science and Engineering whose support and cooperation also contributed much to complete this project work.

TABLE OF CONTENT

CHAPTER NO.	TITLE
1	INTRODUCTION
	1.1 Project Overview
	1.2 Purpose
2	LITERATURE SURVEY
	2.1 Existing System
	2.2 References
	2.3 Problem Statement Definition
3	IDEATION & PROPOSED SYSTEM
	3.1 Empathy Map Canvas
	3.2 Ideation & Brainstorming
	3.3 Proposed Solution
	3.4 Problem Solution fit
4	REQUIREMENT ANALYSIS
	4.1 Functional requirement
	4.2 Non-Functional requirements
5	PROJECT DESIGN
	5.1 Data Flow Diagrams
	5.2 Solution & Technical Architecture
	5.3 User Stories
6	PROJECT PLANNING & SCHEDULING
	6.1 Sprint Planning & Estimation
	6.2 Sprint Delivery Schedule
	6.3 Reports from JIRA

7	CODING & SOLUTIONING
7.1	Feature 1
7.2	Feature 2
7.3	Database Schema (if Applicable)
8	TESTING
8.1	Test Cases
8.2	User Acceptance Testing
9	RESULTS
9.1	Performance Metrics
10	ADVANTAGES & DISADVANTAGES
11	CONCLUSION
12	FUTURE SCOPE
	APPENDIX
	Source Code
	GitHub & Project Demo Link

1. INTRODUCTION

The world has seen an important increase in the demand for Cloud-based applications. This has in turn increased the demand for Cloud application development. As a result, the past few years have had a consolidation of the Cloud computing market. Cloud apps and services are used, directly or indirectly, by almost everyone. Businesses have also increased their use of Cloud-based applications and services, even if they sometimes don't know it. If you use SaaS tools, you are surely using a Cloud app. However, Cloud apps are more than just that. Cloud-based applications, also known as Cloud apps, seem to be taking over. In theory, a Cloud app is one that uses Cloudbased services. So, whether an app is mobile or web, they probably use some sort of Cloud service. What really differentiates a Cloud app from a native one is the extent to which they use Cloud services. Increased dependence on the Cloud's processing power is the result of companies building innovative and creative solutions to all sorts of problems that use technology to do things that were previously impossible. Thanks to the ability to process large amounts of data (Big Data) through third party-owned IT infrastructure, companies can perform massive calculations and deliver top services. Cloud services have opened the possibility for many web-based Cloud applications, also known as web apps. A web app is one where most of the computation occurs in the Cloud, not on the device itself, and is usually built with the use of Cloud application development services. A new form of a web app, known as a Progressive Web App (PWA), is also seeing an increase in popularity. Cloud application development is the process through which a Cloudbased app is built. It involves different stages of software development, each of which prepares your app to go live and hit the market. The best Cloud app development teams use DevOps practices and tools like Kubernetes. However, an experienced app development company should ideally be technology agnostic, which means being able to build your Cloud app using any technology you prefer. Most apps built using the Cloud are highly dependent on the Cloud to operate.

1.1 PROJECT OVERVIEW

With an increasing number of cash-rich, stable, and promising technical companies/startups on the web, which are in much demand right now, many candidates want to apply and work for these companies. They tend to miss out on these postings because there is an ocean of existing systems that list millions of jobs which are generally not relevant at all to the users. There is an abundance of choices and not much streamlining. On the basis of the actual skills or interests of an individual, job seekers often find themselves unable to find the appropriate employment for themselves. This system, therefore, approaches the idea from a data point of view, emphasizing more on the quality of the data than the quantity.

1.2 PURPOSE

The purpose of Skill / Job Recommender Application is to provide information that can be used to apply for the job. In today world, Increases in population results of demand for goods and services. When there is an increase in these goods and services there is a need for workers to make or manufacture or to create the goods and services that are really a need for human habitat. So, there are lot of employment opportunities in every industry. There is unemployment only because of lack of skill set in their domain or fear of missing out on a job. When a job seeker is afraid of getting the desired job, he might losses the job which he really deserved for it. The main purpose of the job recommender application is to provide job opportunities for each and every single person. The only thing the job seeker wants to do is just to approach the application and apply for the job. He will be provided with the login credentials with the confirmation email. There he can find numerous job opportunities. He will be guided with the in-built chat bot, which guides the job seekers to apply for the job and recommends the availability of jobs based on their interest. The chat bot is built with IBM Watson Assistant that is very much helpful in collecting the job seeker interests and also guides them to apply for it.

2. LITERATURE SURVEY

1.Authors: Koen Bothmer and Tim Schlippe.

Title: Skill Scanner: Connecting and Supporting Employers, Job Seekers and Educational Institutions with an AI-based Recommendation System.

Published in: June 2022.

Methodology:

In this paper, all three players—employers, job seekers¹, and educational institutions—need to be aligned. There are already natural language processing (NLP) approaches to extract text data from job seekers' CVs (curriculum vitae), employers' job postings or educational institutions' learning curricula and give recommendations to one of these players. However, this way all three parties use AI in isolation from one another. For example, presents a Word2Vec-based system which informs employers how well job seekers' CVs fit job postings.

LinkedIn has a system that recommends employers' jobs to job seekers based on their personal profile. investigate how AI-based recommendations help job seekers find study programs based on their profile. use a combination of knowledge graph and BERT for helping employers find suitable candidates in a corpus of CVs. Our approach leverages similar NLP methods, but it benefits not only one, but all three players involved. Connecting and supporting them all allows the greatest possible exchange of information and satisfies their needs as illustrated in Figure 1: (1) Employers want to automatically check which of their required skills are covered by applicants' CVs (Find and Select) and know which courses their employees can take to acquire missing skills (Upskill Workforce). (2) Job seekers want to know which skills from job postings are missing in their CVs (Fit to Demand), and which study programs they can take to acquire missing skills (Find Program). (3) Educational institutions want to ensure that the skills required in job postings are covered in their curricula (Fit to Demand), recommend study programs and advise students (Advise).

LIMITATIONS:

- Requires educational institute data like syllabus, lesson plans, etc.
- Returns reports which might be tedious to read.

2. Authors: Jorge Martinez-Gil, Bernhard Freudenthaler, Thomas Natschläger.

Title: Recommendation of Job Offers Using Random Forests and Support Vector Machines

Published in: March 2018

Methodology:

In order to improve the accuracy of the predictions, great research efforts have been made in the last few years concerning the definition of methods for combining a number of simple methods. These methods construct a set of hypotheses (a.k.a. ensemble), and combine the predictions of the ensemble in some way to classify new data. The precision obtained by this combination of hypotheses is usually better than the precision of each individual component. One of the most popular methods in this context are random forests. On the other hand, algorithms based on n-dimensional geometry, where given a set of past solved cases from the past are also gaining popularity. In this way, it is possible to label the classes and train the algorithm to build a geometric model that correctly classifies a new sample. We give a deeper insight of these two methods below

- Random Forests
- Support Vector Machines.

LIMITATIONS:

- SVMs work with models hard to interpret by humans.
- Does not use textual description from job offers.

3.Authors: Pradeep Kumar Roy^a, Sarabjeet Singh Chowdhary^b, Rocky Bhatia^b.

Title: A Machine Learning approach for automation of Resume Recommendation system.

Published in: IEEE (2020) Methodology:

In this paper, The aim of this work is to find the right candidates resume from the pool of resumes. To achieve this objective, we have developed a machine learning based solution, The complete framework for the proposed model is shown in Figure 2. The proposed model worked mainly in two steps: i) Prepare and ii) Deploy and Inference. Dataset Description: The data was downloaded from the online portal(s) and from Kaggle. The data is in Excel format, with three column ID, Category, and Resume. ID - The sequence number of the resume, Category - Industry sector to which the resume belongs to, and Resume - The complete CV of the candidate. The number of instances for the different domain can be seen from Figure.

LIMITATIONS

- Accuracy is only 78%.

4. Authors: Ravitha Mishra, Sheetal Rathi.

Title: Enhanced DSSM (deep semantic structure modelling) technique for job recommendation.

Published in: IEEE (2016)

Methodology:

In this paper, search query are used as a (query, document) pair which consist search criteria such as job title, skills, and location from the recruiter

dataset the goal of the DSSM-SJR model is to select the most prominent skill and rank the candidates based on a graph-based recommendation approaches.

In the DSSM technique, the query and document text are modelled by separate neural network layer and crossed before final score computation and further it optimizes for search engagement and considers as a positive label. In feature representation, DSSM uses document text and query as member pair and converts them to character trigrams. The generated character trigram is used as an input of the proposed model. The said technique is also termed as word hashing and it represents each word in the character trigram format instead of vector representation of the entire word.

LIMITATIONS

- Words with multiple meanings are conflated into a single representation.

5. Authors: Naresh Kumar, Manish Gupta, Deepak Sharma.

Title: Technical Job Recommendation System Using APIs and Web Crawling.

Published in: Jun 2022 Methodology:

In this paper, This module is used to collect important deciding details about a particular company that will be used to filter the companies from the list. These parameters are important to shortlist only the best companies, so that irrelevant options are not displayed to the user. This was done by crawling and scraping the concerned web listings [27, 28] for these companies. The parameters that have been used to filter out companies are series of funding, total funding, number of investors, number of employees (organization size), unicorn status [29], and latest technology stack. Upon using these parameters, a new list of shortlisted companies has been created which has fewer results. This is the final list of this research and recommendation system [30] to work upon.

LIMITATIONS

- This paper uses collaborative filtering which faces well-known problems of privacy breaches and cold start.
- Crawling process is not automate.

2.1 Existing problem

Techniques for automatic recommendation of job offers are specifically designed to address the problem of information overload by giving priority to information delivery for individual users based on their learned preferences [1]. The most common way to process this information nowadays consists of automatically processing the documents involved in the recruitment process. For each document, it is possible to extract a vector for each of its fields (which contain textual information) using the bag-of-words model and TF-IDF as weighting function. Then, some kind of methods for set comparison can shed results on the suitability of a given candidate for a specific job offer. In general, most methods try to exploit solutions based on the Vector Space Model (VSM) to measure the similarity ratio between the original job offer and the application received. It is a solution easy to implement, with very low computational costs, and that tradition has achieved very good results in the context of job recommendation. However, new trends bet on the use of machine learning technology in order to overcome the traditional limitations concerning the incapability of going further beyond the syntactical representation of the document.

2.2 References

- [1] Palmer, R.: Jobs and Skills Mismatch in the Informal Economy. 978-92-2-131613-8 (2017).
- [2] Fernández-Reyes, F.C., Shinde, S.: CV Retrieval System Based on Job Description Matching Using Hybrid Word Embeddings, *Computer Speech & Language*, vol 56 (2019).
- [3] Fabian Abel, Andras A. Benczur, Daniel Kohlsdorf, Martha Larson, Robert Palovics: Proceedings of the 2016 Recommender Systems Challenge, RecSys Challenge 2016, Boston, Massachusetts, USA, September 15, 2016. ACM 2016.
- [4] Daniel Bernardes, Mamadou Diaby, Raphael Fournier, Francoise FogelmanSoulie, Emmanuel Viennet: A Social Formalism and Survey for Recommender Systems. *SIGKDD Explorations* 16(2): 20-37 (2014).

[5] Al-Otaibi S.T., Ykhlef M

A survey of job recommender systems

International Journal of Physical Sciences, 7 (2012), pp. 5127-5142.

[6] Breugh J.A.

The use of biodata for employee selection: Past research and future directions Human Resource Management Review, 19 (2009), pp. 219-231

[7] Abualigah, Laith, Diabat, Ali, Mirjalili, Seyedali, Abd Elaziz, Mohamed, Gandomi, Amir H. 2021. The arithmetic optimization algorithm, Computer Methods in Applied Mechanics and Engineering, 376, 113609, ISSN 0045-7825.

[8] Batmaz, Z., Yurekli, A., Bilge, A., Kaleli, C. 2018. A review on deep learning for recommender systems: challenges and remedies, Artificial Intelligence Review, Aug 2018.

[9] C. Slamet, R. Andrian, D. S. A. Maylawati, W. Darmalaksana, and M. A. Ramdhani, "Web scraping and Naïve Bayes classification for job search engine," *IOP Conference Series: Materials Science and Engineering*, vol. 288, no. 1, Article ID 012038, 2018.

[10] D. V. Musale, M. K. Nagpure, K. S. Patil, and R. F. Sayyed, "Job recommendation system using profile matching and web crawling," *Int. J. Adv. Sci. Res. Eng. Trends.*, vol. 1, 2016.

2.3 Problem Statement Definition

Skill / Job Recommender Application provides a solution for a problem. Where the problem is unemployment and the solution for it is providing the desired job based on the job seekers' interests. Here our application provides the solution for it.

- Rajesh is a fresher who needs a job and wants to know the availability in the companies for his skills because he wants to be independent.
- Nisha is UI/UX designer who really wants to switch her career in other techy field so that she can gain knowledge in different domain.

- Kabi is a senior analyst in specific organization needs a another a high paying job because he has a better skill in this domain with low pay.
- Akash is not okay with his organization so he wants to switch organization so that he can love his work and also can learn new things in other firm.
- Dharshini is a full stack developer who lost her job because of layoff so she wants to find a new job.

Question	Description
Who does the problem affect?	Persons who are searching for a new job.
What is the issue?	When he/she have no jobs or not okay with current job.
When does the issue occur?	While looking for job.
Where is the issue occurring?	Issue occurs when there is lot of unemployment.
Why is it important that we fix the problem?	To place the skilled employee in respected field.

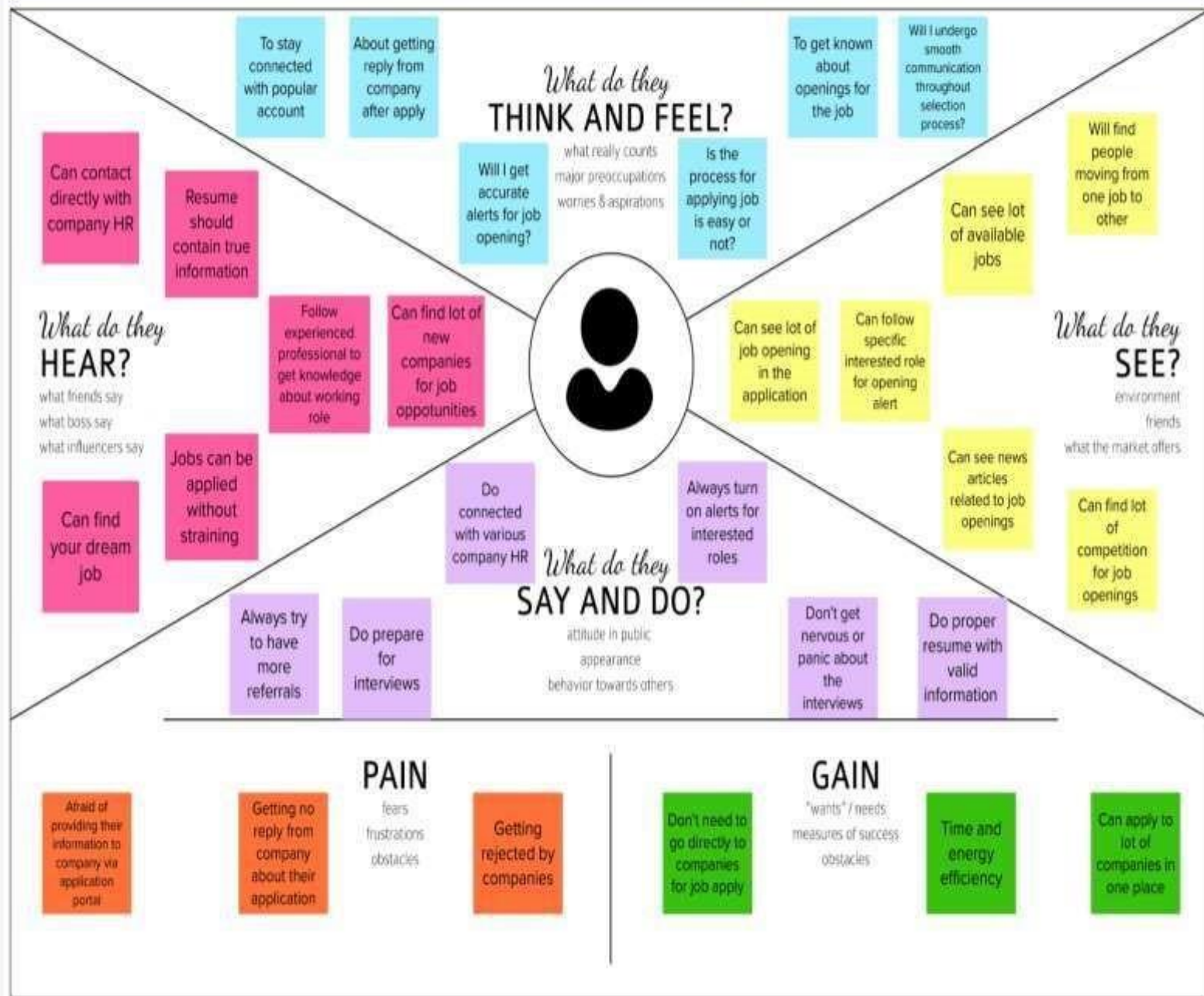
3.IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment. The empathy map was originally created by Dave Gray and has gained much popularity within the agile community. Empathy maps can be used whenever you find a need to immerse yourself in a user's environment. Everyone would add at least one sticky to every section. You might ask questions, such as:

- What would the user be thinking and/or feeling? What are some of their worries and aspirations?
- What would their friends, colleagues, and boss be likely to say while the user is using our product? What would the user hear in these scenarios?
- What would the user see while using our product in their environment?
- What might the user be saying and/or doing while using our product? How would that change in a public or private setting?
- What are some of the user's pain points or fears when using our product?
- What gains might the user experience when using our product?

Empathy Map for our Project Skill / Job Recommender Application



EMPATHY MAP CANVAS

3.2 Ideation and brainstorming

Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity. Brainstorming is usually conducted by getting a group of people together to come up with either general new ideas or ideas for solving a specific problem or dealing with a specific situation.

For example, a major corporation that recently learned it is the object of a major lawsuit may want to gather together top executives for a brainstorming session on how to publicly respond to the lawsuit being filed.

Participants in a brainstorming session are encouraged to freely toss out whatever ideas may occur to them. The thinking is that by generating a large number of ideas, the brainstorming group is likely to come up with a suitable solution for whatever issue they are addressing.

The lines between ideation and brainstorming have become a bit more blurred with the development of several brainstorming software programs, such as Bright idea and Idea wake. These software programs are designed to encourage employees of companies to generate new ideas for improving the companies' operations and, ultimately, bottom-line profitability.



Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes



Team gathering

Define who should participate in the session and send an invite. Share relevant information as pre-work ahead.



Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.



Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#)



Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes



Brainstorm

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

10 minutes

Vasanth

Only feature worked	Get excited what got reply	Only add what we kept the previous
Get some idea	Secure information with recording	Get idea design to create the other information
There was a small conversation on this	Keep consistent with checklist	Even and past friendly interface

Krishnaraj

High job priority	To give second application	Give response with help of chatbox
User friendly to using application	Efficient working process	Review and Feedback
Self-Destructive	Don't comment to high user performance	Secure data base to protect

Santhoshkumar

Highly responsive in feature release	To give happy Customers	Support customers with any queries
Take care in not oversteering	Offering accountability	Make it your own feature
Self-destructive thinking	Learn from time	Support with chat

Venkatesan

Devoted about company	For any response	Providing only response for each development
Provide details about every work item	Provide user details for respective job mail	Consistent customer settings
Planning, schedule user introduction	To have chat update with performance	To have list of updates related to app

Group Ideas

Take time to bring 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. For cluster 1, bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

2000



①

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.

0.20 min: 100°C



After you collaborate

You can get the manual as an insert or pdf to share with members if your company will contribute to help.

Quick start-up

- Share the mail**
Share a view link to the mail with colleagues to work from the document. The author of the mail can
- Report the mail**
Report a copy of the mail as a Phishing PDF to help to warn others of this threat to your file

Feig moving forward

- Strategy developer**
Define the components of a new idea or strategy.
[Open the template](#) 
- Culture-experience journey map**
Document customer needs, behaviors, and attitudes to inform service.
[Open the template](#) 
- Strengths, weaknesses, opportunities & threats**
Evaluate company's weaknesses, opportunities, and risks. SWOT analysis is a core strategy tool.
[Open the template](#) 

 Word template preview

3.3 proposed solution

The proposed solution is to improve communication between the project manager and the team, and to give the team more responsibility for their work.

S.No	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none">• When there is an increase in population, there will be a demand for goods and services. For that production manpower needed where automatically hiring happens.• Many industries have various sorts of openings to provide job opportunity, but job seekers are not aware of those openings. And they find it hard to search for a job.• Many users on the internet find it difficult to search through the jobs that are listed in the jobsearching portal.• They might fear fake job offers and not having proper knowledge of the company.• They will apply for all the job openings without doing background verification of the company.
2.	Idea / Solution Description	<ul style="list-style-type: none">• Finding the job based on the skills which is updated on the resume of one job seeking personality.• Users get an alert when there is an opening for relevant job they are applied for.• Users can interact with chat-bot.• Fake / Fraudulent job offers are eliminated.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• IBM Watson Assistant is used which acts as an interactive chat-bot in the Portal.• The presence of chat bot removes 24/7 customer support.• It uses Docker to containerize it and IBM cloud for deployment.

4.	Social Impact / Customer Satisfaction	The job and skilled Recommender system is expected to reduce unemployment and improve the skills of job seekers to get a job. The customer satisfaction is measured by getting reviews from the customer after Deployment.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> • Feedback provides two-way communication between end users, which increases trust among users. • When users increase the application is popularized and growth of the application too increases. • Premium features are provided for the users after the application growth.
6.	Scalability of the solution	To provide the best scalability cloud computing is implemented here. The cloud is where the technology gets updated day to day. So, when there is a increases or decreases in IT tools cloud provide the best in it.

3.4 Problem solution fit

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it solves the customer's problem. The Problem-Solution Fit is an important step towards the ProductMarket Fit, but often an underestimated one.

Define CS, fit into	1. CUSTOMER SEGMENTS CS <ol style="list-style-type: none"> Working professionals Job Seekers Job recruiters Freshers(Graduate Student) 	6. CUSTOMER CONSTRAINTS CC <ol style="list-style-type: none"> Security in personal data Employment Scam Network Connection Gives job alerts 	5. AVAILABLE SOLUTIONS AS <p>Having various platform like LinkedIn, Naukri which provide high alerts in job availability and provides filters to search specific job opening and also available for everyone indeed.</p>	Explore AS, fit into CS
	2. JOBS TO-BE-DONE / PROBLEMS J&P <ol style="list-style-type: none"> Working professionals who are looking forward to jump one job to other Job Seekers to find their desired jobs Job Recruiters to find skilled candidate for specific job position. 	9. PROBLEM ROOT CAUSE RC <ol style="list-style-type: none"> Root cause for unemployability is over population. Population growth increases where Job opportunity decreases. Spam / Fraudulent Job Openings. Education System not providing enough skills to get into job. 	7. BEHAVIOUR BE <ol style="list-style-type: none"> Customer can access the portal for job openings and apply to it. Makes large connections between job seekers and job recruiters. Can learn many skills to get job. 	
Identify strong TR & EM	3. TRIGGERS TR <ol style="list-style-type: none"> Financial Insecurity Career Growth Social Pressure 	10. YOUR SOLUTIONS SL <ol style="list-style-type: none"> To provide end to end solutions to get a job. Using API for filtering the job based on their interests. Notify Spam jobs and Remove from the portal. User Friendly UI 	8. CHANNELS OF BEHAVIOUR CH <p>Online</p> <ol style="list-style-type: none"> Searching for job. Applying for job. 	Extract online & offline CH of BE
	4. EMOTIONS BEFORE / AFTER EM <p>Before: Depressed, Fear of selection</p> <p>After: Motivated & Independent</p>		<p>Offline</p> <ol style="list-style-type: none"> Visiting office for selection purpose. Working in office after the selection. 	

PROBLEM SOLUTION FIT

4. REQUIREMENT ANALYSIS

Requirements analysis, also called requirements engineering, is the process of determining user expectations for a new or modified product. These features, called requirements, must be quantifiable, relevant and detailed. In software engineering, such requirements are often called functional specifications. Requirements analysis is an important aspect of project management.

Requirements analysis involves frequent communication with system users to determine specific feature expectations, resolution of conflict or ambiguity in requirements as demanded by the various users or groups of users, avoidance of feature creep and documentation of all aspects of the project development process from start to finish. Energy should be directed towards ensuring that the final system or product conforms to client needs rather than attempting to mold user expectations to fit the requirements.

Requirements analysis is a team effort that demands a combination of hardware, software and human factors engineering expertise as well as skills in dealing with people.

The purpose of the Requirements Analysis Phase is to transform the needs and high-level requirements specified in earlier phases into unambiguous (measurable and testable), traceable, complete, consistent, and stakeholder-approved requirements.

4.1 Functional Requirement

Functional requirements may involve calculations, technical details, data manipulation and processing, and other specific functionalities that define what a system is supposed to accomplish. Behavioral requirements describe all the cases where the system uses the functional requirements, these are captured in use cases.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email
FR-3	User Login	Mail ID is required
FR-4	User Search	User can search for a job based on their skillset
FR-5	User Profile	Profiles can be edited and updated
FR-6	Chat-Bot	Chat-Bot are provided to help users. If users having doubt regarding job searches, they can reach chat-bot and the bot will answers their queries.

4.2 Non-Functional requirements

In systems engineering and requirements engineering, a non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. They are contrasted with functional requirements that define specific behavior or functions. The plan for implementing functional requirements is detailed in the system design. The plan for implementing non-functional

requirements is detailed in the system architecture the system architecture, because they are usually architecturally significant requirements.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Job seekers are able to search for job openings when there are logged onto the application and can apply for the job with their respected skill set.
NFR-2	Security	Separate login for Job Seekers and Job Recruiters.
NFR-3	Reliability	Can be accessed without any charges, hence it is opensource application.
NFR-4	Performance	Performance-wise it is pretty faster. It gives quick results based on the searching.
NFR-5	Availability	Our Skill and Job Recommender application is available widely and also there is wide range of jobs available in the application.
NFR-6	Scalability	In order to provide the best scalability, cloud computing is implemented. Response time is also pretty much faster comparatively.

5. PROJECT DESIGN

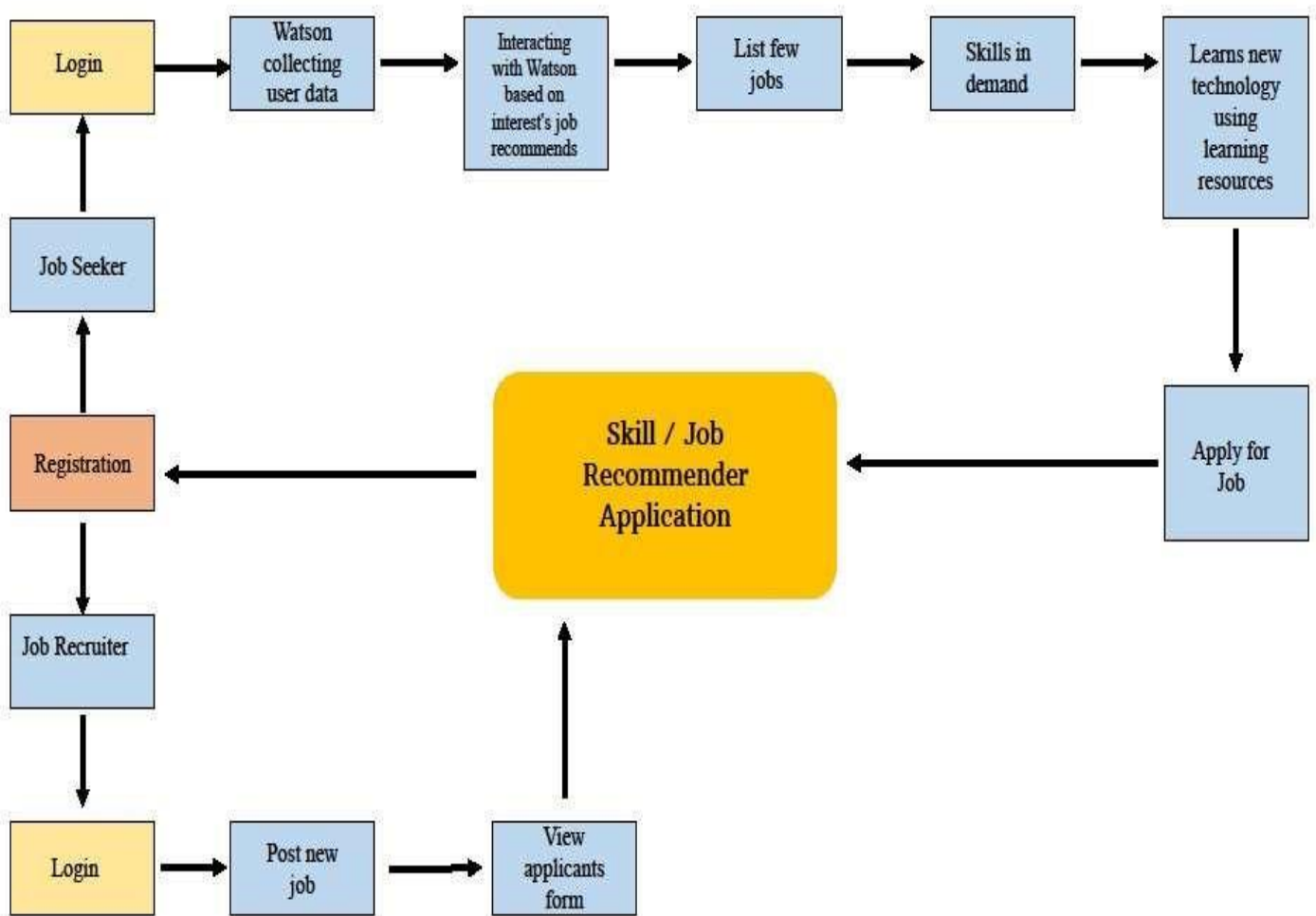
5.1 Data flow diagram

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 can be manual, automated, or a combination of both.

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

The objective of a DFD is to show the scope and boundaries of a system as a whole. It may be used as a communication tool between a system analyst and any person who plays a part in the order that acts as a starting point for redesigning a system. The DFD is also called as a data flow graph or bubble chart.

A set of parallel lines shows a place for the collection of data items. A data store indicates that the data is stored which can be used at a later stage or by the other processes in a different order. The data store can have an element or group of elements. The DFD may be used to perform a system or software at any level of abstraction. DFDs may be partitioned into levels that represent increasing information flow and functional detail. Then the system is decomposed and described as a DFD with multiple bubbles. Parts of the system represented by each of these bubbles are then decomposed and documented as more and more detailed DFDs.

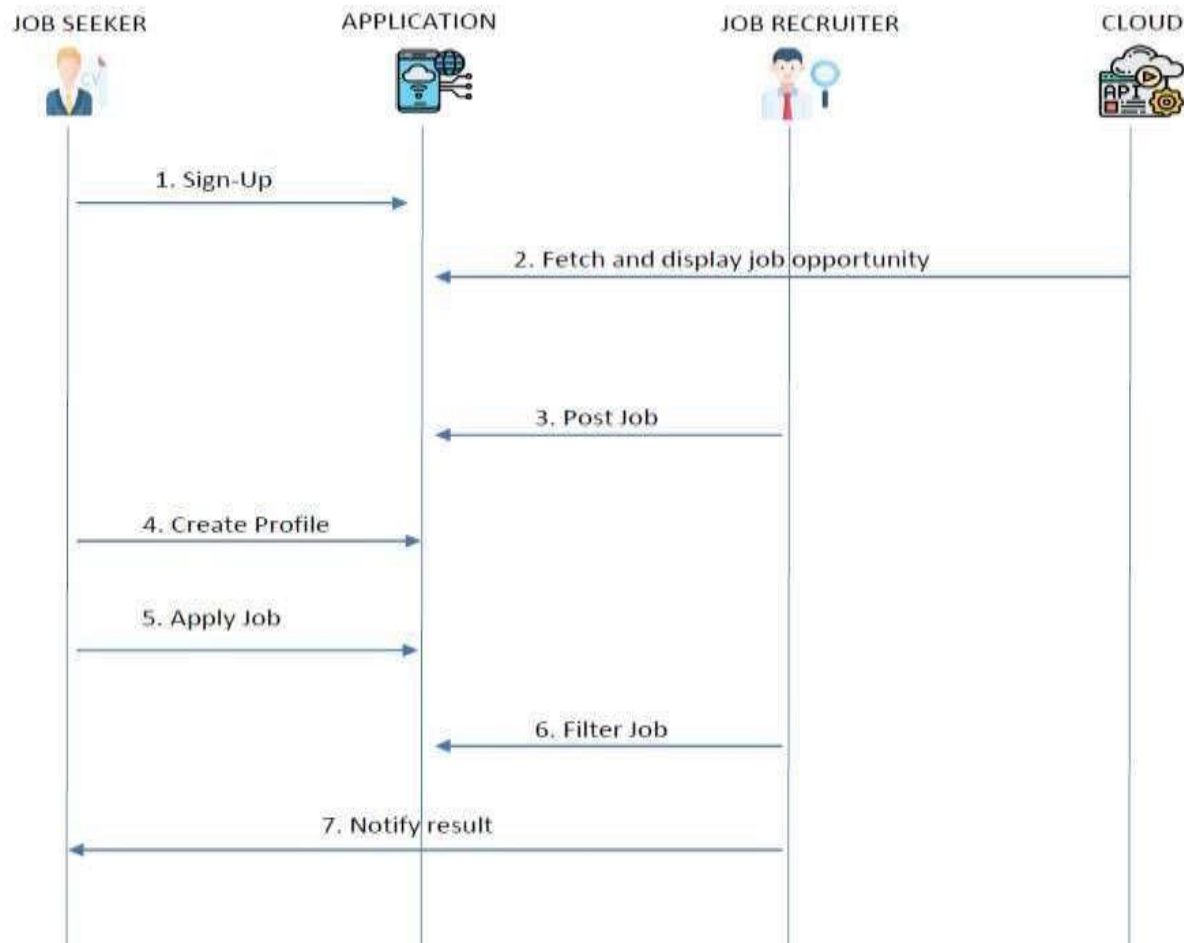


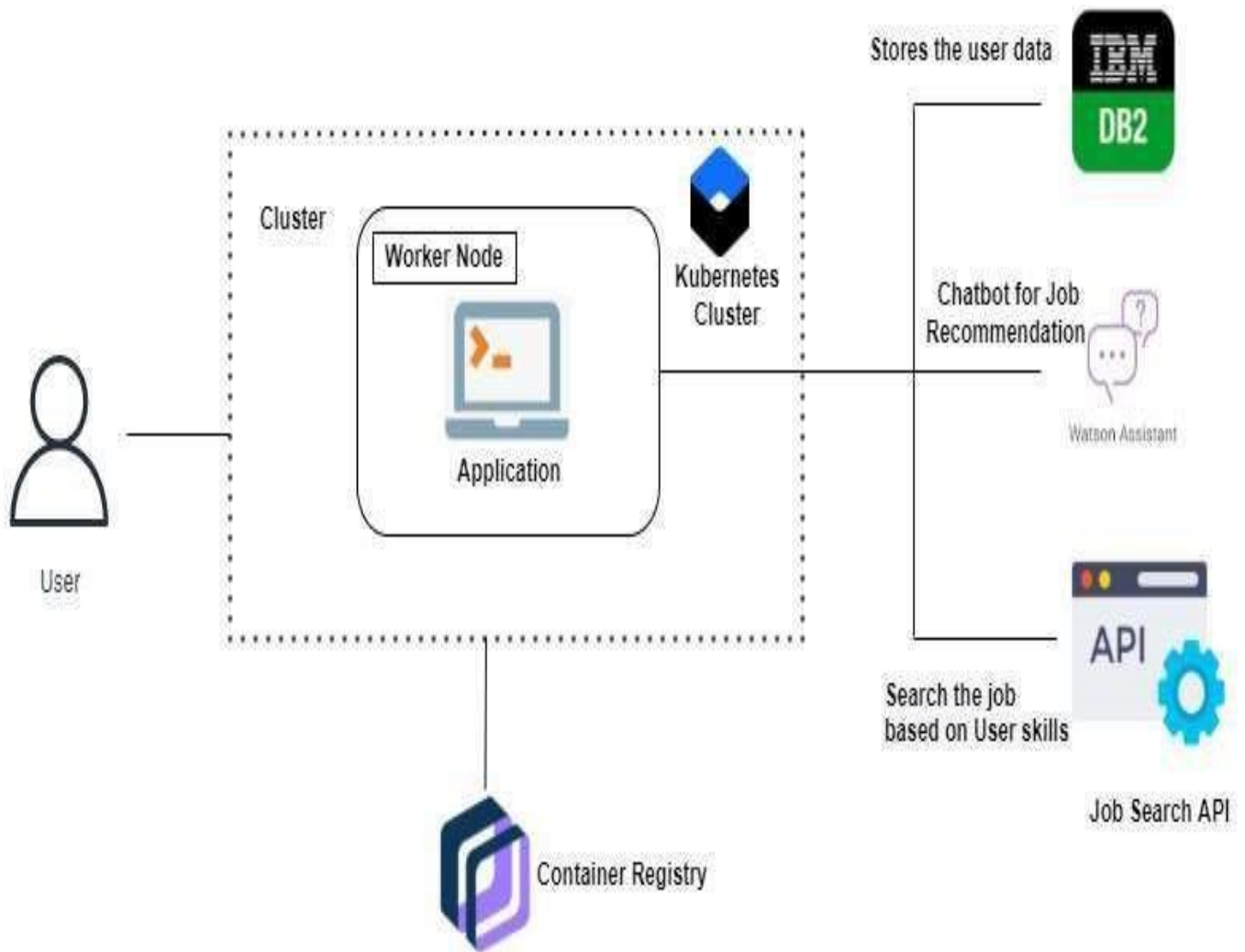
DATA FLOW DIAGRAM

5.2 Solution & Technical Architecture

Solution Architects are most similar to project managers, ensuring that all parties, including stakeholders, are on the same page and moving in the right direction at all stages. Technical architects manage all activities leading to the successful implementation of a new application. They propose a combination of

building blocks that provides the best possible fix. This process is very detail-oriented and serves as a connecting piece between enterprise architecture and technical architecture. It also requires a breadth of knowledge in the technical and business inner workings of the company.





TECHNOLOGY STACK

5.3 User Stories

A user story is the smallest unit of work in an agile framework. It's an end goal, not a feature, expressed from the software user's perspective.

A user story is an informal, general explanation of a software feature written from the perspective of the end user or customer.

The purpose of a user story is to articulate how a piece of work will deliver a particular value back to the customer. Note that "customers" don't have to be external end users in the traditional sense, they can also be internal customers or colleagues within your organization who depend on your team.

User stories are a few sentences in simple language that outline the desired outcome. They don't go into detail. Requirements are added later, once agreed upon by the team.

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Priority	Acceptance criteria	Team Members
Sprint-1	UI / UX Design	USN-1	As a user, I need to interact with websites. So, this will be the interface between me and website.	High	I can interact with website	Vignesh B, SanjaiKumar
Sprint-1	Registration	USN-2	As a user, I can register for the application by entering my email, password, and confirming my password.	High	I can register with email	RanjithKumar, DavidAlwin, Vignesh B

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Priority	Acceptance criteria	Team Members
Sprint-1		USN-3	As a user, I will receive confirmation email once I have registered for the application	High	I can receive confirmation mail	SanjaiKumar, Vignesh B
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	Low	I can login to the application by entering login credentials	RanjithKumar, Vignesh B

6. PROJECT PLANNING & SCHEDULING

Planning - Planning pertains to the process of creating a plan of which materials and resources will be required to fulfil incoming and forecasted demand. This step is crucial to ensure that you have enough materials and resource capacity available to produce your orders on time. This component pertains to the ‘what’ and ‘how’ of any project: what exactly needs to be achieved and how it will be accomplished.

Scheduling - Scheduling pertains to establishing the timing of the use of specific resources of that organization. In production, scheduling involves developing schedules for workers, equipment, and materials. It reflects on the ‘when’ of a project, by assigning the appropriate resources to get the production plan completed within a period of time. Creating optimized production schedules ensures that your facility is able to reduce costs, increase productivity, and deliver goods to customers on time.

In order to create accurate and realistic production plans that allow manufacturers to react quickly to changes, it is important to have a production plan that is aligned with the resource and material scheduling process. Having any discrepancy or divergence between the planning and scheduling process creates inefficiencies that can be costly for your business. The bigger the divergence, the larger the cost.

6.1 Sprint planning and estimation

Planning:

In Sprint Planning, the team decides what it will build in the upcoming Sprint and how they will build it. The team commits to the Sprint goal after breaking down user stories into tasks and doing task-level estimation. Sprint Planning is done by the Product Owner, Scrum Master, and the Team. In Scrum, every project is broken into

time blocks called sprints, usually 2-4 weeks long. A sprint planning meeting is when the team (including the Scrum Master, Scrum Product Manager, and Scrum Team) meets to determine which backlog items will be handled in the next sprint.

Estimation

In Scrum Projects, Estimation is done by the entire team during Sprint Planning Meeting. The objective of the Estimation would be to consider the User Stories for the Sprint by Priority and by the Ability of the team to deliver during the Time Box of the Sprint.

Product Owner ensures that the prioritized User Stories are clear, can be subjected to estimation, and they are brought to the beginning of the Product Backlog.

As the Scrum Team in total is responsible for the delivery of the product increment, care would be taken to select the User Stories for the Sprint based on the size of the Product Increment and the effort required for the same.

The size of the Product Increment is estimated in terms of User Story Points. Once the size is determined, the effort is estimated by means of the past data, i.e., effort per User Story Point called Productivity.

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Priority	Acceptance criteria	Team Members
Sprint-1	UI / UX Design	USN-1	As a user, I need to interact with websites. So, this will be the interface between me and website.	High	I can interact with website	Ranjith Kumar, Vignesh B
Sprint-1	Registration	USN-2	As a user, I can register for the application by entering my email, password, and confirming my password.	High	I can register with email	Ranjith Kumar, David Alwin, Sanjai Kumar
Sprint-1		USN-3	As a user, I will receive confirmation email once I have registered for the application	High	I can receive confirmation mail	Sanjai Kumar, Vignesh B
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	Low	I can login to the application by entering login credentials	Ranjith Kumar, Vignesh B

Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	Low	I can login to the application by entering login credentials	Ranjith Kumar, Vignesh B
Sprint-1	Flask	USN-5	As a user, I can access the website in quick span of time.	High	I can access website quickly	Ranjith Kumar, Sanjai Kumar, David Alwin
Sprint-1	Dashboard	USN-6	As a user, I can access various tools and services on the website through the help of dashboard.	High	I can access various tools and services	Ranjith Kumar, Sanjai Kumar
			Submission of sprint 1			
Sprint-2	Database	USN-7	As a user, I can store the data am providing in the portal.	High	I can store my data	Ranjith Kumar, Vignesh B
Sprint-2	User Profile	USN-8	As a user, I can update my profile in the user	Medium	I can modify my details	Sanjai Kumar, Ranjith Kumar
			profile section			
Sprint-2	SendGrid Integration	USN-9	As a user, I can get notification through mail services	Medium	I can get mail	Ranjith Kumar, Vignesh B
Sprint-2	Learning Resources	USN-10	As a user, I can access resources and knowledge which is useful in developing the skills	Medium	I can access learning resources	Sanjai Kumar, Vignesh B
Sprint-2	Link to python code	USN-11	As a user, I can access website fast	High	I can access website	Sanjai Kumar, RanjithKumar, DavidAlwin
			Submission of sprint 2			

Sprint-3	Cloud Storage	USN-12	As a user, I can store my photos, resumes and much more media that are supported in the webpage.	High	I can store the medias	RanjithKumar, Vignesh B
Sprint-3	Chat-Bot	USN-13	As a user, I can access the chatbot which is very much useful in knowing several things like recent available jobs and jobs opening etc..	High	I can interact with chatbot to solve any queries	RanjithKumar, SanjaiKumar, Vignesh B
Sprint-3	Integrate to App	USN-14	As a user, I can interact with chatbot after the integration of chat-bot and webpage.	High	Easy access with chat-bot	SanjaiKumar, David Alwin
			Submission of Sprint 3			
Sprint-4	Docker	USN-15	As a user, I can access the webpage in any device.	High	I can access my account in any device	RanjithKumar, SanjaiKumar, Vignesh B
Sprint-4	Kubernetes	USN-16	As a user, I can access the webpage in any device.	High	I can access my account in any device	Vignesh B ,SanjaiKumar
Sprint-4	Deployment in cloud	USN-17	As a user, I can access the website any device.	High	I can access my account in any device	Ranjith Kumar, Vignesh B

Sprint-4	Technical support	USN-18	As a user, I can get a customer care support on the website when am having any queries	Medium	Helps me to solve queries	RanjithKumar, SanjaiKumar
Sprint-4	Unit Testing	USN-19	As a user, I can access the website without any interruptions.	High	I can access the website without any interruptions	RanjithKumar, Vignesh B, SanjaiKumar, DavidAlwin
Sprint-4	Integration Testing	USN-20	As a user, I can access the website without any interruptions.	High	I can access the website without any interruptions	RanjithKumar, Vignesh B, SanjaiKumar, DavidAlwin
Sprint-4	System Testing	USN-21	As a user, I can access the website without any interruptions.	High	I can access the website without any interruptions	RanjithKumar, Vignesh B, SanjaiKumar, DavidAlwin

Sprint-4	Correction	USN-22	As a user, I can access the website without any interruptions.	High	I can access the website without any interruptions	RanjithKumar, Vignesh B, SanjaiKumar, DavidAlwin
Sprint-4	Acceptance Testing	USN-23	As a user, I can access the website without any interruptions.	High	I can access the website without any interruptions	RanjithKumar, Vignesh B, SanjaiKumar, DavidAlwin
			Submission of Sprint 4			

PLANNING & ESTIMATION

6.2 Sprint delivery schedule

Since sprints take place over a fixed period of time, it's critical to avoid wasting time during planning and development. And this is precisely where sprint scheduling enters the equation.

In case you're unfamiliar, a sprint schedule is a document that outlines sprint planning from end to end. It's one of the first steps in the agile sprint planning process—and something that requires adequate research, planning, and communication.

Teams often run into trouble when they create more than a few schedules. This can create conflict and derail projects midway through their cycles. To ensure things stay on track, one schedule makes sense.

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

Velocity:

We have a 6-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$\text{AV} = \text{sprint duration} / \text{velocity}$$

$$\text{AV} = 20 / 6$$

$$\text{AV} = 3.33 \text{ SPRINT}$$

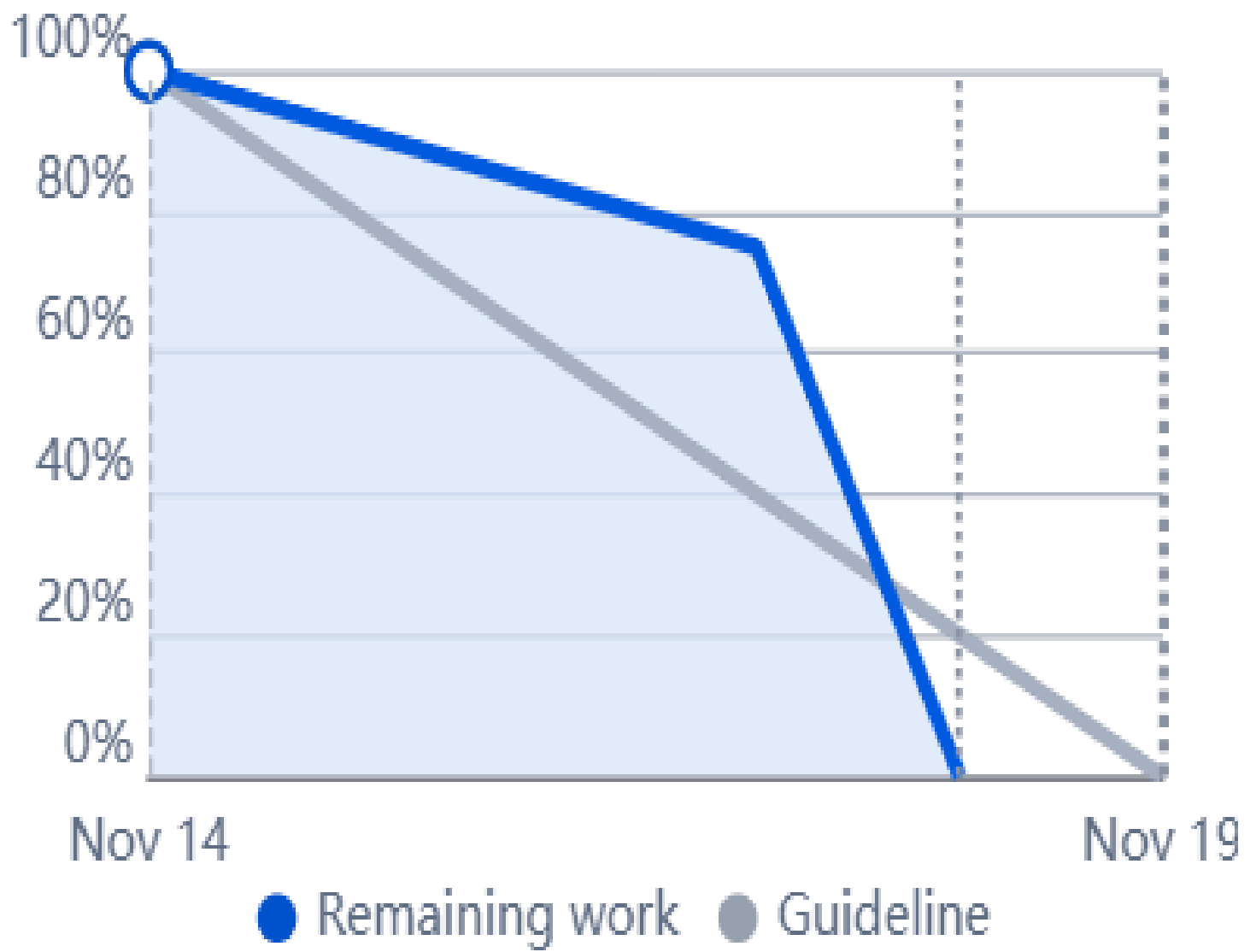
DELIVERY SCHEDULE

6.3 Reports from JIRA

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

Typically, in a burn down chart, the outstanding work is often on the vertical axis, with time along the horizontal. It is useful for predicting when all of the work will be completed. In the Daily Scrum the Development Team updates the Sprint Burn Down and plots the remaining work of the day.

Burndown Chart(Sprint 4):



	OCT							NOV							NOV							NOV						
	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Sprints	Sprint 1							Sprint 2							Sprint 3							Sprint 4						
> SKIL-24 UI / UX Design																												
> SKIL-25 Registration																												
> SKIL-26 Login																												
> SKIL-27 Flask																												
> SKIL-28 Dashboard																												
> SKIL-29 Database																												
> SKIL-30 User Profile																												
> SKIL-31 SendGrid Integration																												
> SKIL-32 Learning Resources																												
> SKIL-33 Link to python code																												
> SKIL-34 Cloud Storage																												
> SKIL-35 Chat-Bot																												
> SKIL-36 Integrate to App																												
> SKIL-37 Docker																												
> SKIL-38 Kubernetes																												
> SKIL-39 Deployment in cloud																												
> SKIL-40 Technical Support																												
> SKIL-41 Unit Testing																												
> SKIL-42 Integration Testing																												
> SKIL-43 System Testing																												
> SKIL-44 Correction																												
> SKIL-45 Acceptance Testing																												

7. CODING AND SOLUTIONING

7.1 Feature 1

HOME PAGE.HTML

```
<html>
<head>
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
  integrity="sha384-Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh"
  crossorigin="anonymous">
  <!--javascript-->
  <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
  J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwjl1yYfoRSJoZ+n"
  crossorigin="anonymous"></script>
  <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-
  Q6E9RHvblyZFJoft+2mJbHaEwdlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
  crossorigin="anonymous"></script>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js" integrity="sha384-
  wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
  crossorigin="anonymous"></script>
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/font-awesome@4.7.0/css/font-
  awesome.min.css">
  <link rel="stylesheet" href="static/style.css">
</head>
<body>
  <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
    <a class="navbar-brand" href="#">Job Portal</a>
    <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarText" aria-
    controls="navbarText" aria-expanded="false" aria-label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarText">
      <ul class="navbar-nav mr-auto">
        <li></li>
      </ul>
      <ul class="navbar-nav ms-auto mb-2 mb-lg-0">
        <li class="nav-item">
          <a class="nav-link text-white" href="http://127.0.0.1:5000/signin">Sign In</a>
        </li>
        <li class="nav-item">
          <a class="nav-link text-white" href="http://127.0.0.1:5000/signup">Sign Up</a>
        </li>
      </ul>
    </div>
  </nav>
```

```

<div class="image">
  <br>
  <br>
  <br>
  <br><br>
  <br>
  <h3 class="title"> Search 50,000+ jobs openings</h3>
  <h6 class="title"><mark>WWW.JOBPORTAL.COM</mark></h6>
  <ul class="title" id="in">
    <li>Skill </li>
    <li>Learning</li>
    <li>Job</li>
    <li>Best Company</li>
  </ul>
</div>
<div class="footer">
  <h3 class="title1">Popular Categories</h3>
  <div class="row">
    <div class="col">
      <ul class="s1">
        <li class="l1"><i style="font-size:35px ;margin: 0 80px 5px 0;" class="fa">&#xf05d;</i></li><br>
        <li class="sec l1">Design & Art </li>
      </ul>
    </div>
    <div class="col">
      <ul class="s1">
        <li class="l1"><i style="font-size:35px;margin: 0 80px 5px 0;" class="fa">&#xf0c0;</i></li>
        <li class="sec l1">IT Engineer</li>
      </ul>
    </div>
    <div class="col">
      <ul class="s1">
        <li class="l1"><i style="font-size:35px;margin: 0 80px 5px 0;" class="fa">&#xf0eb;</i></li>
        <li class="sec l1">Front End<br> Developer</li>
      </ul>
    </div>
    <div class="col">
      <ul class="s1">
        <li class="l1"><i style="font-size:35px;margin: 0 80px 5px 0;" class="fa">&#xf26c;</i></li>
        <li class="sec l1">Back End <br>Developer</li>
      </ul>
    </div>
  </div>
</div>
</div>
</div>
</body>
</html>

```

SignIn Page.html

```
<html>
  <head>
    <title>profile.html</title>
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
integrity="sha384-
Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh
" crossorigin="anonymous">
    <!--javascript-->
    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwjl1yYfoRSJoZ+n"
crossorigin="anonymous"></script>
    <script
src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
crossorigin="anonymous"></script>
    <link rel="stylesheet" href=" ../static/style.css">
  </head>
  <body>
    <section class="vh-100">
      <div class="container py-5 h-100">
        <div class="row d-flex align-items-center justify-content-center h-100">
          <div class="col-md-8 col-lg-7 col-xl-6">
            
          </div>
          <div class="col-md-7 col-lg-5 col-xl-5 offset-xl-1">
            <h3 class="hd">sign in</h3><br>
            <form method="POST" >
              <!-- Email input -->
              <div class="form-outline mb-4">
```

```

        <input type="email" class="form-control form-control-lg" name="email"
/>

        <label class="form-label" name="em">Email address</label>
    </div>

    <!-- Password input -->
    <div class="form-outline mb-4">
        <input type="password" class="form-control form-control-lg"
name="password" />
        <label class="form-label" >Password</label>
    </div>

    <div class="d-flex justify-content-around align-items-center mb-4">
        <!-- Checkbox -->
        <div class="form-check">
            <input class="form-check-input" type="checkbox" value=""
id="form1Example3" checked />
            <label class="form-check-label" for="form1Example3"> Remember me
</label>
        </div>
        <a href="#">Forgot password?</a>
    </div>
    <br>
    <p class="msg">{{ msg }}</p>
    <!-- Submit button -->
    <button type="submit" class="btn btn-primary btn-lg btn-block">Sign
in</button><br>
    <a href="http://127.0.0.1:5000/signup" class="account">Click here to
Create Account..</a>

    </form>
</div>
</div>
</div>
</section>
</body>
</html>

```

SignUp Page.html

```
<html>
  <head>
    <title>profile.html</title>
    <link
      rel="stylesheet"
      href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
      integrity="sha384-
      Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh
      " crossorigin="anonymous">
    <!--javascript-->
    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
      J6qa4849blE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n"
      crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
      integrity="sha384-
      Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
      crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
      integrity="sha384-
      wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
      crossorigin="anonymous"></script>
    <link rel="stylesheet" href=" ../static/style.css">
  </head>
  <body>
    <section class="vh-100">
      <div class="container py-5 h-100">
        <div class="row d-flex align-items-center justify-content-center h-100">
          <div class="col-md-8 col-lg-7 col-xl-6">
            
          </div>
          <div class="col-md-7 col-lg-5 col-xl-5 offset-xl-1">
            <h3 class="hd">Sign Up</h3><br>
            <form method="POST">
              <!-- Email input -->
              <div class="form-outline mb-4">
                <input type="email" name="email" class="form-control form-control-lg"
              />
            </div>
          </div>
        </div>
      </div>
    </section>
  </body>
</html>
```



```

        <label class="form-label" >Email address</label>
    </div>

    <!-- Password input -->
    <div class="form-outline mb-4">
        <input      type="text"          class="form-control    form-control-lg"
name="username"/>
        <label class="form-label" >User Name</label>
    </div>
    <div class="form-outline mb-4">
        <input type="text"  name="rollno" class="form-control form-control-lg"
/>
        <label class="form-label" >Roll No</label>
    </div>
    <div class="form-outline mb-4">
        <input type="password"  name="password" class="form-control form-
control-lg" />
        <label class="form-label" >Password</label>
    </div>
    <div class="msg">
        <p>{{ msg }}</p>
    </div>
    <!-- Submit button -->
    <button  type="submit"  class="btn  btn-primary  btn-lg  btn-block"
value="signup">Sign up</button><br>
    <a href="http://127.0.0.1:5000/signin" class="account">Already have an
account.</a><br>

    </form>
</div>
</div>
</div>
</section>
</body>
</html>

```

Feature 2:

Index.html

```
<html>
  <head>
    <link
      rel="stylesheet"
      href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
      integrity="sha384-
      Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh
      " crossorigin="anonymous">
    <!--javascript-->
    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
      J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n"
      crossorigin="anonymous"></script>
    <!-- JavaScript Bundle with Popper -->
    <script
      src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js"
      integrity="sha384-
      OERcA2EqjJCMA+/3y+gxIOqMEjwtxJY7qPCqsdltbNJuaOe923+mo//f6V8Qbsw3"
      crossorigin="anonymous"></script>
    <script
      src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
      integrity="sha384-
      Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
      crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
      integrity="sha384-
      wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
      crossorigin="anonymous"></script>
    <link rel="stylesheet" href="../static/style.css">
    <script src="activePage.js"></script>
  </head>
  <body>
    <nav class="navbar navbar-expand-lg navbar-light bg-primary">
      <a class="navbar-brand" href="http://127.0.0.1:5000/index">Job Portal</a>
      <button class="navbar-toggler" type="button" data-toggle="collapse" data-
      target="#navbarText" aria-controls="navbarText" aria-expanded="false" aria-
      label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
      </button>
```

```

<div class="collapse navbar-collapse" id="navbarText" >
  <ul class="navbar-nav mr-auto">
    <li class="nav-item active">
      <a class="nav-link text-white active"
href="http://127.0.0.1:5000/index">Home</a>
    </li>
    <li class="nav-item">
      <a class="nav-link text-white" href="http://127.0.0.1:5000/Company
Questions">Company Questions</a>
    </li>
    <li class="nav-item">
      <a class="nav-link text-white" href="http://127.0.0.1:5000/IT">IT Status</a>
    </li>
    <li class="nav-item">
      <a class="nav-link text-white" href="http://127.0.0.1:5000/Opportunity">Your
Opportunity </a>
    </li>
  </ul>
  <ul class="navbar-nav my-2 my-lg-0">
    <li class="nav-item">
      <a class="nav-link text-white"
href="http://127.0.0.1:5000/profile">Profile</a>
    </li>
    <li class="nav-item">
      <a class="nav-link text-white"
href="http://127.0.0.1:5000/logout">Logout</a>
    </li>
  </ul>
</div>
</nav>
<h4 class="job2">Available Job Opportunities</h4>
<!--card view -->
<div class="container">
<div class="row">
<div class="col-sm">
  <div class="card" style="width: 100%;">
<div class="card-body">
<h5 class="card-title">Software Engineering - CIB_SHE CODES_2023</h5>

```

<h6 class="card-subtitle mb-2 text-muted">JPMorgan Chase & Co. Bengaluru, Karnataka, India Hybrid </h6>

<p class="card-text">Looking for a JAVA Developer with Experience ranging between 4 to 11 Years</p>

<p>Looking for a JAVA Developer with Experience ranging between 4 to 11 Years
Core Java 8 Concepts, Spring, Spring boot, REST API, Design patterns
MicroServices, Angular / React / JavaScript, etc..</p>

Company Websites

Apply link

</div>

</div>

</div>

</div>

<div class="row">

<div class="col-sm">

<div class="card" style="width: 100%;">

<div class="card-body">

<h5 class="card-title">HPE Intern 2023</h5>

<h6 class="card-subtitle mb-2 text-muted">Hewlett Packard Enterprise Bengaluru, Karnataka, India On-site </h6>

<p class="card-text">Job Description

College/University Graduate hires (within 12 months of graduation per the company's definition) undergoing a specific training and development path within the India Graduate Program.</p>

Company Websites

Apply link

</div>

</div>

</div>

</div>

<div class="row">

```

<div class="col-sm">
  <div class="card" style="width: 100%;">
<div class="card-body">
  <h5 class="card-title">Internal Firm Services Associate 2 - Full-Time 2023</h5>
  <h6 class="card-subtitle mb-2 text-muted">JPMorgan Chase & Co. Bengaluru,
Karnataka, India Hybrid </h6>
  <p class="card-text">Job Description & Summary
A career in our Internal Firm Services Acceleration Centre is the natural extension of
PwC's leading class global delivery capabilities. We provide premium, cost effective,
high quality services that support process quality and delivery capability in support for
client engagements.</p>
  <a href="https://www.pwc.com/gx/en/careers/job-search.html" class="card-
link">Company Websites</a>
  <a
href="https://pwc.wd3.myworkdayjobs.com/Global_Experienced_Careers/job/Kolkata/
Internal-Firm-Services-Associate-2---Full-Time-2023_364476WD?source=891422"
class="card-link">Apply link</a>
</div>
</div>
</div>
</div>
<div class="row">
<div class="col-sm">
  <div class="card" style="width: 100%;">
<div class="card-body">
  <h5 class="card-title">Microsoft FED ReactJS Application Developer</h5>
  <h6 class="card-subtitle mb-2 text-muted">Accenture in India Bengaluru, Karnataka,
India</h6>
  <p class="card-text">Key Responsibilities : 1:Work closely with client and team and
understanding the requirement, design,analyse and do the code changes 2:Helping team
and client to resolve production issues 3:Should able to handle day to day activity like
team management, daily meeting etc</p>
  <a href="https://www.accenture.com/in-en" class="card-link">Company
Websites</a>
  <a href="https://www.accenture.com/in-
en/careers/jobdetails?id=673577_india_1&src=LINKEDINJP" class="card-
link">Apply link</a>
</div>
</div>

```

```

</div>
</div>
<div class="row">
<div class="col-sm">
<div class="card" style="width: 100%;">
<div class="card-body">
<h5 class="card-title">Microsoft FED ReactJS Application Developer</h5>
<h6 class="card-subtitle mb-2 text-muted">Accenture in India Bengaluru, Karnataka, India</h6>
<p class="card-text">Key Responsibilities : 1:Work closely with client and team and understanding the requirement, design,analyse and do the code changes 2:Helping team and client to resolve production issues 3:Should able to handle day to day activity like team management, daily meeting etc</p>
<a href="https://www.accenture.com/in-en" class="card-link">Company Websites</a>
<a href="https://www.accenture.com/in-en/careers/jobdetails?id=673577_india_1&src=LINKEDINJP" class="card-link">Apply link</a>
</div>
</div>
</div></div></div>
</body>
</html>

```

Company_Question.html

```

<html>
<head>
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
integrity="sha384-
Vkoo8x4CGsO3+Hhvx8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh"
crossorigin="anonymous">
<!--javascript-->
<script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"

```

```

integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
crossorigin="anonymous"></script>
    <link rel="stylesheet" href="../static/style.css">
    <script src="activePage.js"></script>
</head>
<body style="background-image:url(../static/image/background.jpg);>
    <h3 class="card-sub">TOP COMAPNYS SMAPLE QUESTIONS</h3>
    <h5 class="card-sub">Looking Forward To a Great Career</h5>
    <div class="container" id="card">
        <div class="row">
            <div class="col-sm">
                <div class="card" style="width: 19rem;">
                    <div class="card-body">
                        <h5 class="card-title">CISCO</h5>
                        <h6 class="card-subtitle mb-2 text-muted">CISCO-Placement-
Paper</h6>
                        <p class="card-text">Cisco Systems, Inc. is a leading networking
company best known as a manufacturer and vendor of networking equipment. The
company also provides software and offers related services.</p>
                        <a href="https://www.cisco.com/c/en_in/index.html" class="card-
link">Vist website</a>
                        <a href="https://s3.jp-tok.cloud-object-
storage.appdomain.cloud/plc/placement/CISCO-Placement-Paper.pdf" class="card-
link">Sample Questions</a>
                    </div>
                </div>
            </div>
            <div class="col-sm">
                <div class="card" style="width: 19rem;">
                    <div class="card-body">
                        <h5 class="card-title">Cognizant</h5>
                        <h6 class="card-subtitle mb-2 text-muted">Cognizant-Previous-Year-
Placement-Paper</h6>

```

<p class="card-text">Cognizant is an American multinational information technology services and consulting company. It is headquartered in Teaneck, New Jersey, United States.</p>

Vist Website

Samaple Questions

</div>

</div>

</div>

<div class="col-sm">

<div class="card" style="width: 19rem;">

<div class="card-body">

<h5 class="card-title">Dell</h5>

<h6 class="card-subtitle mb-2 text-muted">Dell-Technical-Round-Model-Paper</h6>

<p class="card-text">Dell Technologies Inc (Dell) is a provider of desktop personal computers, software, and peripherals. The company designs, develops, manufactures, markets, sells.</p>

Vist Website

Samaple Questions

</div>

</div>

</div>

</div>

</div>

</div>

<div class="container" id="card">

<div class="row">

<div class="col-sm">

<div class="card" style="width: 19rem;">


```

        <div class="card-body">
            <h5 class="card-title">Deloitte</h5>
            <h6 class="card-subtitle mb-2 text-muted">Deloitte-Model-Placement-
Question-Paper</h6>
            <p class="card-text">Deloitte” is the brand under which tens of thousands
of dedicated professionals in independent firms throughout the world collaborate to
provide audit & assurance.</p>
            <a href="https://www2.deloitte.com/global/en/careers/job-search.html"
class="card-link">Vist website</a>
            <a href="https://s3.jp-tok.cloud-object-
storage.appdomain.cloud/plc/placement/Deloitte-Model-Placement-Question-
Paper.pdf" class="card-link">Sample Questions</a>
        </div>
    </div>
</div>
<div class="col-sm">
    <div class="card" style="width: 19rem;">
        <div class="card-body">
            <h5 class="card-title">HCL</h5>
            <h6 class="card-subtitle mb-2 text-muted">HCL-Mock-Placement-
Paper</h6>
            <p class="card-text">The company offers a wide range of solutions in IT
infrastructure management services, digital process operations, cloud native services,
digital & analytics services, IoT works, HCL software services,</p>
            <a href="https://www.hcltech.com/careers/Careers-in-india" class="card-
link">Vist Website</a>
            <a href="https://s3.jp-tok.cloud-object-
storage.appdomain.cloud/plc/placement/HCL-Mock-Placement-Paper.pdf"
class="card-link">Samaple Questions</a>
        </div>
    </div>
</div>
<div class="col-sm">
    <div class="card" style="width: 19rem;">
        <div class="card-body">
            <h5 class="card-title">Infosys</h5>
            <h6 class="card-subtitle mb-2 text-muted">Infosys-Model-Placement-
QA</h6>

```

<p class="card-text">Established in 1981, Infosys is a NYSE listed global consulting and IT services company with more than 345k employees. From a capital of US\$250, we have grown to become a US\$ 17.53 billion </p>

Vist Website

Samaple Questions

</div>

</div>

</div>

</div>

</div>

</div>

<div class="container" id="card">

<div class="row">

<div class="col-sm">

<div class="card" style="width: 19rem;">

<div class="card-body">

<h5 class="card-title">Accenture</h5>

<h6 class="card-subtitle mb-2 text-muted">Previous-Year-Accenture-Model-Paper</h6>

<p class="card-text">Combining unmatched experience and specialized skills across more than 40 industries, we offer Strategy and Consulting, Technology and Operations services.</p>

Vist website

Sample Questions

</div>

</div>

</div>

<div class="col-sm">

<div class="card" style="width: 19rem;">

<div class="card-body">

<h5 class="card-title">TCS-NQT</h5>

<h6 class="card-subtitle mb-2 text-muted">TCS-NQT-Practice-Paper-1</h6>

<p class="card-text">Tata Consultancy Services (TCS) is an Indian multinational information technology (IT) services and consulting company with its headquarters in Mumbai.

</p>

Vist Website

Samaple Questions

</div>

</div>

</div>

<div class="col-sm">

<div class="card" style="width: 19rem;">

<div class="card-body">

<h5 class="card-title">Wipro</h5>

<h6 class="card-subtitle mb-2 text-muted">Wipro-WILP-Placement-Papers-with-Answers-Set-1</h6>

<p class="card-text">Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading technology services and consulting company focused on building innovative solutions.</p>

Vist Website

Samaple Questions

</div>

</div>

</div>

</div>

</div>

</div>

</body>

</html>

IT_Status.html

```
<html>
  <head>
    <link
      href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
      integrity="sha384-
      Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh
      " crossorigin="anonymous">
    <!--javascript-->
    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
    J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n"
    crossorigin="anonymous"></script>
    <script
    src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
    integrity="sha384-
    Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
    crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
    integrity="sha384-
    wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
    crossorigin="anonymous"></script>
    <link rel="stylesheet" href=" ../static/style.css">
  </head>
  <body>
    <h4 class="job2">Easily Find Your Career Growth</h4>
    <table class="table">
      <thead class="thead-dark">
        <tr>
          <th scope="col">Rank No</th>
          <th scope="col">Name</th>
          <th scope="col">Revenue</th>
          <th scope="col">Market Cap</th>
          <th scope="col">Total Assets</th>
          <th scope="col">Promoter Holding</th>
          <th scope="col">Listed Stock Exchange</th>
          <th scope="col">Ticker Symbol</th>
        </tr>
      </thead>
      <tbody>
```

<tr>	<th scope="row">1</th>	<td>TCS</td>	<td>Rs 1,95,772 Crore</td>	<td>Rs 11,81,636 Crore</td>	<td>Rs 1,40,924 Crore</td>	<td> 72.30%</td>	<td>BSE & NSE</td>	<td>TCS</td>	
</tr>	<tr>	<th scope="row">2</th>	<td>Infosys</td>	<td>Rs 1,23,936 Crore</td>	<td> Rs 6,48,039 Crore</td>	<td>Rs 1,16,729 Crore</td>	<td>13.11%</td>	<td>BSE & NSE</td>	<td> INFY</td>
</tr>	<tr>	<th scope="row">3</th>	<td>HCL Tech</td>	<td>Rs 35,673 Crore</td>	<td>Rs 2,58,660 Crore</td>	<td>Rs 54,693 Crore</td>	<td> 60.72%</td>	<td>BSE & NSE</td>	<td>HCLTECH</td>
</tr>	<tr>	<th scope="row">4</th>	<td> Wipro</td>	<td>Rs 50,299.40 Crore</td>	<td>Rs 2,31,235 Crore</td>	<td>Rs 65,688 Crore</td>	<td>73.02%</td>	<td>BSE & NSE</td>	

	<td>WIPRO</td>
	</tr>
	<tr> <th scope="row">5</th> <td>Tech Mahindra</td> <td>Rs 45,761 Crore</td> <td>Rs 1,19,638 Crore</td> <td>Rs 39,601 Crore</td> <td> 35.7%</td> <td>BSE & NSE</td> <td>TECHM</td> </tr>
	<tr> <th scope="row">6</th> <td> Mindtree</td> <td>Rs 10,832.60 Crore</td> <td>Rs 55,590 Crore</td> <td>Rs 8,157.30 Crore</td> <td>61%</td> <td>BSE & NSE</td> <td>MINDTREE</td> </tr>
	<tr> <th scope="row">7</th> <td>Persistent Systems Ltd.</td> <td>Rs 2,412.40 Crore</td> <td>Rs 25,243 Crore</td> <td>Rs 3,993.80 Crore</td> <td>50.18%</td> <td>BSE & NSE</td> <td>COFORGE</td> </tr>
	<tr> <th scope="row">8</th> <td>L&T Infotech</td> <td>Rs 6,722.10 Crore</td> <td>Rs 40,458 Crore</td> <td>Rs 5,066.20 Crore</td>

```

        <td>73.88%</td>
        <td>BSE & NSE</td>
        <td>LTTS</td>
    </tr>
    <tr>
        <th scope="row">9</th>
        <td>MphasiS</td>
        <td>Rs 12,121.89 Crore</td>
        <td>Rs 40,486 Crore</td>
        <td>Rs 9,364.66 Crore</td>
        <td>55.72%</td>
        <td>BSE & NSE</td>
        <td>MPHASIS</td>
    </tr>
    <tr>
        <th scope="row">10</th>
        <td>Oracle Fin Service</td>
        <td>Rs 5,355.80 Crore</td>
        <td>Rs 27,674 Crore</td>
        <td>Rs 8,152 Crore</td>
        <td>73.02%</td>
        <td>BSE & NSE</td>
        <td>OFSS</td>
    </tr>
</tbody>
</table>
</body>
</html>

```

Opportunity.html

```
<html>
  <head>
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
integrity="sha384-
Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh
" crossorigin="anonymous">
    <!--javascript-->
    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849bIE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n"
crossorigin="anonymous"></script>
    <script
src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
crossorigin="anonymous"></script>
    <link rel="stylesheet" href="../static/style.css">
  </head>
  <body >
    <div class="container">

      <div class="row height d-flex justify-content-center align-items-center">

        <div class="col-md-8">

          <div class="search">
            <i class="fa fa-search"></i>
            <input type="text" class="form-control" placeholder="Search Your
Dream Job">
            <button class="btn btn-primary">Search</button>
          </div>

        </div>

      </div>

    </div>
```



```

    </div>
  </div>
  <h4 class="job2">DEPEND ON YOUR SKILL'S.YOUR JOB'S ARE
UPDATED </h4><div class="container">
  <!--cardview-->
  <div class="container">
<div class="row">
  <div class="col-sm">
    <div class="card" style="width: 100%;">
<div class="card-body">
  <h5 class="card-title">Software Engineering - CIB_SHE CODES_2023</h5>
  <h6 class="card-subtitle mb-2 text-muted">JPMorgan Chase & Co. Bengaluru,
Karnataka, India Hybrid </h6>
  <p class="card-text">Looking for a JAVA Developer with Experience ranging
between 4 to 11 Years</p>
  <p>Looking for a JAVA Developer with Experience ranging between 4 to 11 Years
  Core Java 8 Concepts, Spring , Spring boot , REST API , Design patterns
MicroServices, Angular / React / JavaScript, etc..</p>
  <a href="#" class="card-link">Card link</a>
  <a href="#" class="card-link">Another link</a>
</div>
</div>
</div>
</div>
  <div class="row">
    <div class="col-sm">
      <div class="card" style="width: 100%;">
<div class="card-body">
  <h5 class="card-title">HPE Intern 2023</h5>
  <h6 class="card-subtitle mb-2 text-muted">Hewlett Packard Enterprise Bengaluru,
Karnataka, India On-site </h6>
  <p class="card-text">Job Description

```

College/University Graduate hires (within 12 months of graduation per the company's definition) undergoing a specific training and development path within the India Graduate Program.</p>

```

  <a href="#" class="card-link">Company Websites</a>
  <a
href="https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1001/

```



```

<!--javascript-->
<script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849blE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwjl1yYfoRSJoZ+n"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/js/bootstrap.min.js"
integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6"
crossorigin="anonymous"></script>
<link rel="stylesheet" href="../static/style.css">
</head>
<body>
<section class="vh-100" style="background-color: #f4f5f7;">
<div class="container py-5 h-100">
<div class="row d-flex justify-content-center align-items-center h-100">
<div class="col col-lg-8 mb-4 mb-lg-0">
<div class="card mb-3" style="border-radius: .5rem;">
<div class="row g-0">
<div class="col-md-4 gradient-custom text-center text-white"
style="border-top-left-radius: .5rem; border-bottom-left-radius: .5rem;">

<h5>Marie Horwitz</h5>
<p>Web Designer</p>
<i class="far fa-edit mb-5"></i>
</div>
<div class="col-md-8">
<div class="card-body p-4">
<h6>Information</h6>
<hr class="mt-0 mb-4">
<div class="row pt-1">
<div class="col-8 mb-3">
<h6>Email</h6>
<p class="text-muted">vigneshbalamurugan01@gmail.com</p>
</div>

```


Coding:

App.py

App.py

```
import re
```

```
import mysql.connector
```

```
from flask import Flask, redirect, render_template, request, session, url_for
```

```
app=Flask(__name__)
```

```
app.secret_key = 'se'
```

```
conn=mysql.connector.connect(host='localhost',database='userinfo',user='root',password='')
```

```
cursor=conn.cursor()
```

```
@app.route('/')
```

```
@app.route('/home')
```

```
def home():
```

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

```
@app.route('/index')
```

```
def index():
```

```
    if 'loggedin' in session:
```

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

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

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

```
def log():
```

```
    msg="
```

```
    if request.method == 'POST':
```

```
        email = request.form['email']
```

```
        password = request.form['password']
```

```
        cursor.execute('select * from customer where email=%s and password=%s',(email,password))
```

```
        record = cursor.fetchone()
```

```
        if record:
```

```
            session['loggedin'] = True
```

```
            session['id']=record[1]
```

```
            session['email'] = record[2]
```

```
            return redirect('index')
```

```

        else:
            msg = 'Incorrect username/password.Try again !'
            return render_template('login.html',msg=msg)
@app.route('/logout')
def logout():
    session.pop('loggedin',None)
    session.pop('id',None)
    session.pop('email',None)
    return render_template('home.html')
@app.route('/signup',methods=['GET','POST'])
def register():
    msg=""
    if request.method=='POST':
        email = request.form['email']
        username=request.form['username']
        rollno=request.form['rollno']
        password = request.form['password']
        cursor.execute('select * from customer where email=%s and password=%s', (email,
password))
        record = cursor.fetchone()
        if record:
            msg='Account already exist !'
        elif not re.match(r'[^@ ]+@[^@ ]+\.[^@ ]+',email):
            msg='Invalid email address !'
        elif not username or not password or not email:
            msg='Please fill out the form !'
        else:
            cursor.execute('insert      into      customer(email,username,rollno,password)
values(%s,%s,%s,%s)',(email,username,rollno,password))
            conn.commit()
            cursor.close()
            msg='You have successfully Registered'
        elif request.method=='POST':
            msg='please fill out the form'
            return render_template('signup.html',msg=msg)

@app.route('/profile')
def profile():

```

```

    return render_template('profile.html')
@app.route('/IT')
def IT():
    return render_template('it.html')
@app.route('/Company Questions')
def Company():
    return render_template('cq.html')
@app.route('/Opportunity')
def Opportunity():
    return render_template('op.html')
if __name__=='__main__':
    app.run(debug=True)

```

Style.css

```

body{
    background-color:white;
}
.nav-link{
    text-decoration: none;
}
.account{
    float: right;
}
.job{
    text-align: center;
    margin-top: 125px;
}
.job2{
text-align:center;
margin-top:20px
}
.image{
    background-image: url("./image/2108.w023.n001.914B.p1.914.jpg");
    height: 450px;
    align-items: center;
    width: 100%;
}
.title{

```

```

    font-family: Fantasy;
    margin-top: 20px;
    text-align: center;
    color: white;
}
#in{
    list-style-type: circle;
    margin-top: 20px;
    display: -ms-inline-flexbox;
    list-style: none;
}
.title1{
    font-family: Fantasy;
    text-align: center;
    color: rgba(50, 48, 199, 0.616);
    margin-top: 20px;
}
.s,.l1{
    display: inline-block;
    margin-left: 10px;
    text-align: center;
    margin-top: 20px;
    list-style: circle;
}
.s1{
    display: inline-block;
    margin-top: 20px;
    align-items: center;
}
.s1{
    margin-left: 30%;
}
.sec{
margin-left: 1px;
}
.hd{
    text-align: center;

```



```

    font-family: Fantasy;
}
.card{
    margin-top: 20px;
}
.card-sub{
    text-align: center;
    background-color: cadetblue;
    color: antiquewhite;
    font-family: Fantasy;
    margin-top: 0px;
}
.table{
margin-top:20px;
margin-left:20px;
width:1250px
}
<!--search-->
@import
url("https://fonts.googleapis.com/css2?family=Poppins:weight@100;200;300;400;500;
600;700;800&display=swap");

```

```

body{
    background-color:#eee;
    font-family: "Poppins", sans-serif;
    font-weight: 300;
}

```

```

.height{
    height: 30vh;
}

```

```

.search{
    position: relative;
    box-shadow: 0 0 40px rgba(51, 51, 51, .1);
}

```

```

}

.search input{

height: 60px;
text-indent: 25px;
border: 2px solid #d6d4d4;


}

.search input:focus{

box-shadow: none;
border: 2px solid blue;


}

.search .fa-search{

position: absolute;
top: 20px;
left: 16px;


}

.search button{

position: absolute;
top: 5px;
right: 5px;
height: 50px;
width: 110px;
background: blue;


}

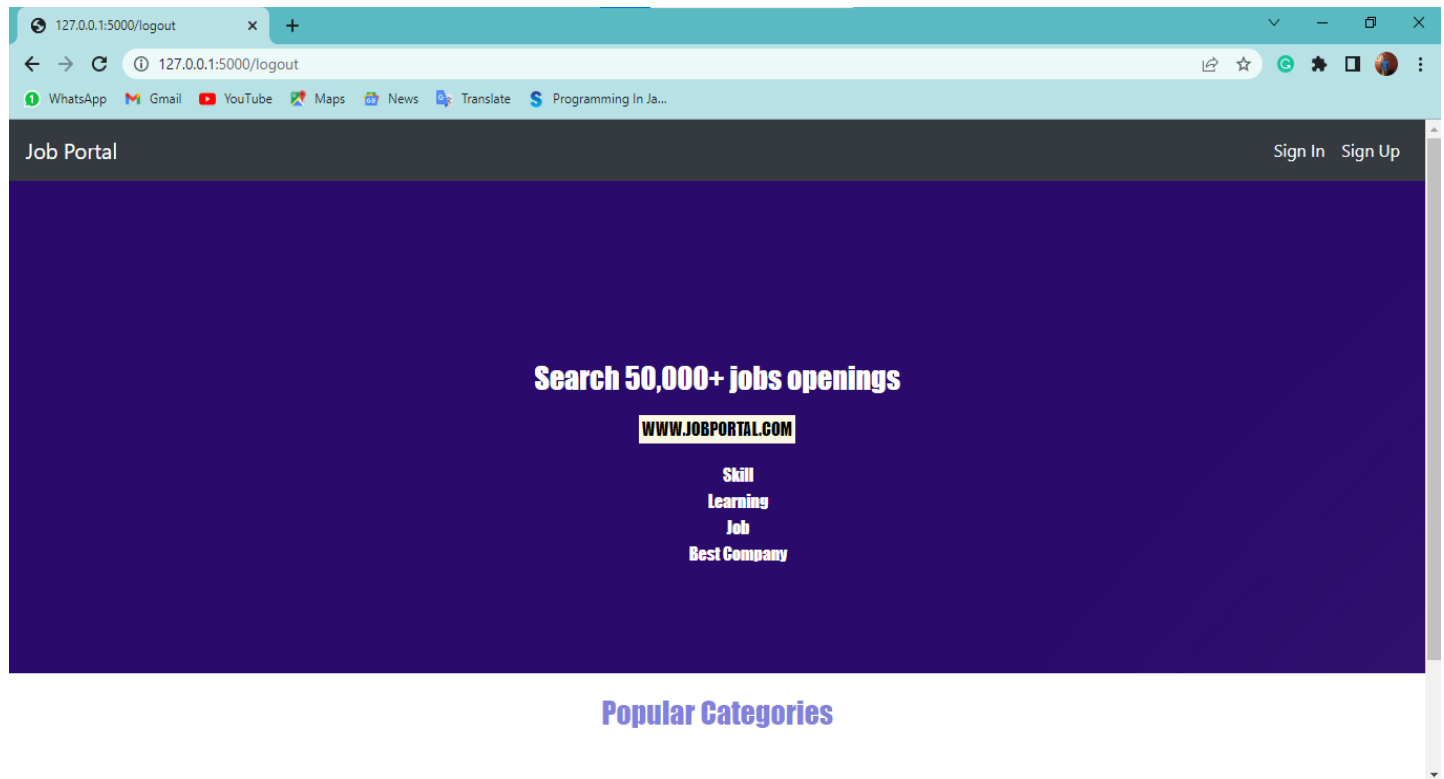
```

Output:

```
C:\Users\ajith\AppData\Local\Programs\Python\Python310\python.exe
"C:\Users\ajith\OneDrive\Desktop\Skill and Job Recommender\Project Development
Phase\Sprint 1\app.py"
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a
production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 864-501-692
```

OUTPUT IMAGES:

HOME PAGE




SIGN UP PAGE

profile.html x +

127.0.0.1:5000/signup

WhatsApp Gmail YouTube Maps News Translate Programming In Ja...

Sign Up



vigneshbalamurugan01@gmail.com

Email address

Vignesh B

User Name

1901111

Roll No

.....

Password

Sign up

[Already have an account..](#)


SIGN IN PAGE

profile.html x +

127.0.0.1:5000/signin

WhatsApp Gmail YouTube Maps News Translate Programming In Ja...

sign in



vigneshbalamurugan01@gmail.com

Email address

.....

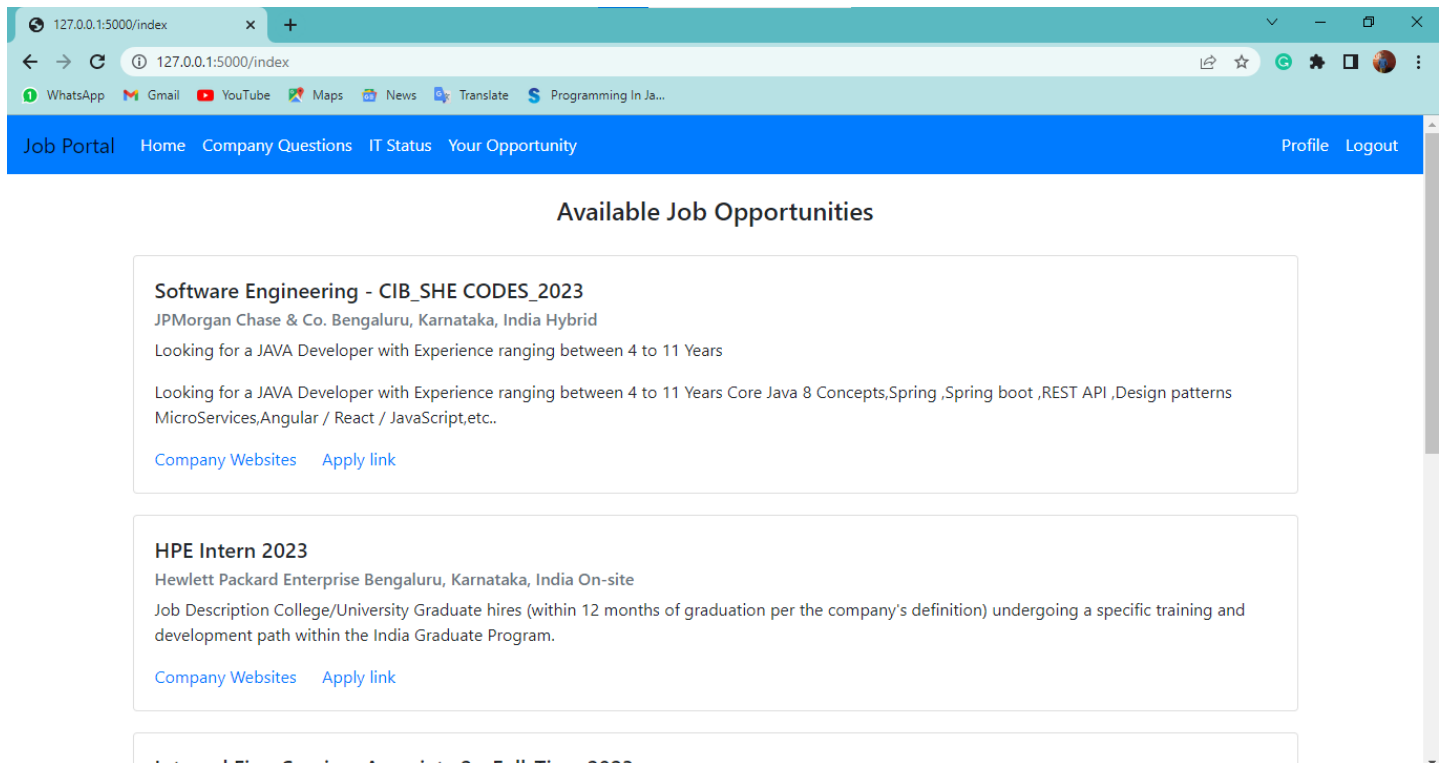
Password

☒ Remember me [Forgot password?](#)

Sign in

[Click here to Create Account..](#)

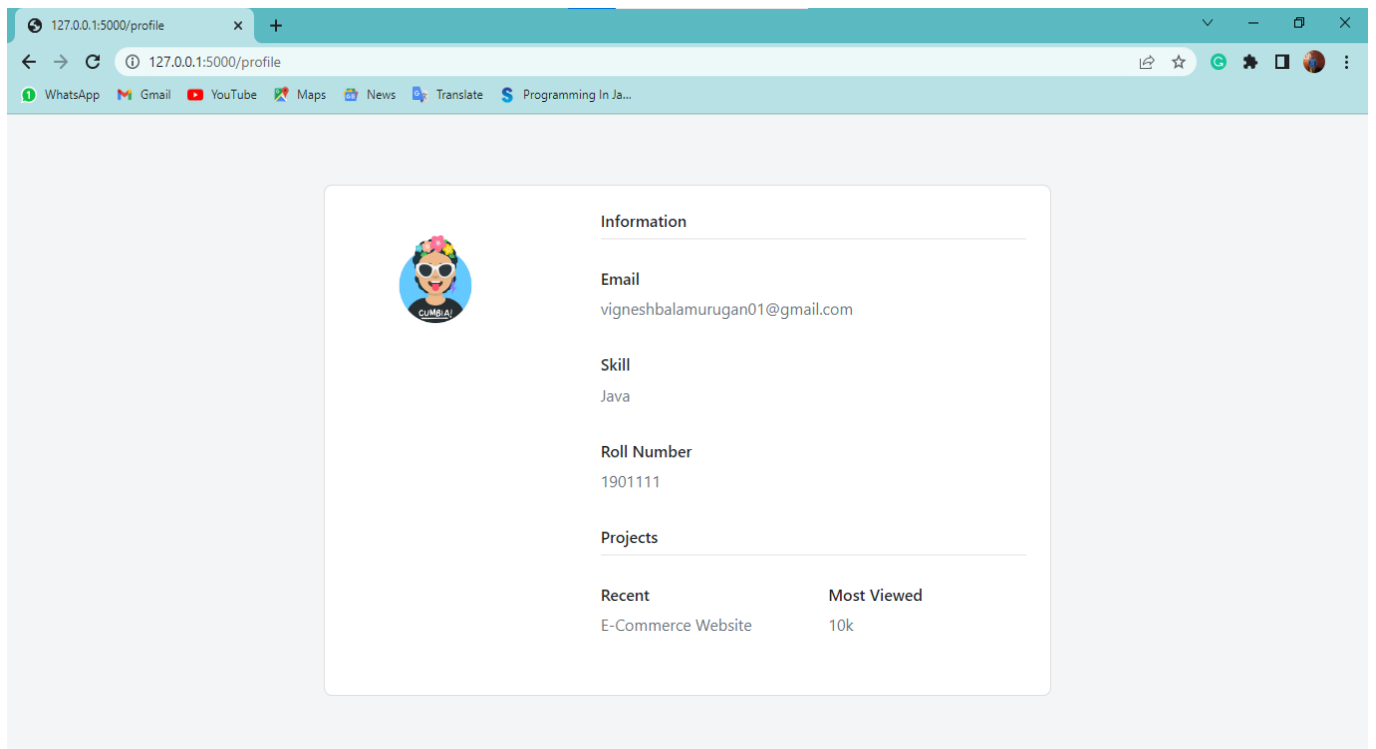
JOB PORTAL PAGE



The screenshot shows a web browser at 127.0.0.1:5000/index. The navigation bar includes links for Job Portal, Home, Company Questions, IT Status, Your Opportunity, Profile, and Logout. The main section is titled "Available Job Opportunities" and lists three job openings:

- Software Engineering - CIB_SHE CODES_2023**
JPMorgan Chase & Co. Bengaluru, Karnataka, India Hybrid
Looking for a JAVA Developer with Experience ranging between 4 to 11 Years
Looking for a JAVA Developer with Experience ranging between 4 to 11 Years Core Java 8 Concepts, Spring, Spring boot, REST API, Design patterns, MicroServices, Angular / React / JavaScript, etc..
[Company Websites](#) [Apply link](#)
- HPE Intern 2023**
Hewlett Packard Enterprise Bengaluru, Karnataka, India On-site
Job Description College/University Graduate hires (within 12 months of graduation per the company's definition) undergoing a specific training and development path within the India Graduate Program.
[Company Websites](#) [Apply link](#)
- Internal Firm Services Associate 3 - Full Time 2023**

PROFILE PAGE



The screenshot shows a web browser at 127.0.0.1:5000/profile. The profile page features a user avatar and the following information:

- Information**
- Email**
vigneshbalamurugan01@gmail.com
- Skill**
Java
- Roll Number**
1901111
- Projects**
- Recent**
E-Commerce Website
- Most Viewed**
10k

COMPANY QUESTION PAGE

TOP COMPANYS SMAPLE QUESTIONS
Looking Forward To a Great Career

CISCO
CISCO-Placement-Paper
Cisco Systems, Inc. is a leading networking company best known as a manufacturer and vendor of networking equipment. The company also provides software and offers related services.
[Vist website](#) [Samaple Questions](#)

Cognizant
Cognizant-Previous-Year-Placement-Paper
Cognizant is an American multinational information technology services and consulting company. It is headquartered in Teaneck, New Jersey, United States.
[Vist Website](#) [Samaple Questions](#)

Dell
Dell-Technical-Round-Model-Paper
Dell Technologies Inc (Dell) is a provider of desktop personal computers, software, and peripherals. The company designs, develops, manufactures, markets, sells.
[Vist Website](#) [Samaple Questions](#)

Deloitte
Deloitte-Model-Placement-Question-Paper
Deloitte is the brand under which tens of thousands of dedicated professionals in independent firms throughout the world collaborate to provide audit & assurance.

HCL
HCL-Mock-Placement-Paper
The company offers a wide range of solutions in IT infrastructure management services, digital process operations, cloud native services, digital & analytics services, IoT works, HCL software services,

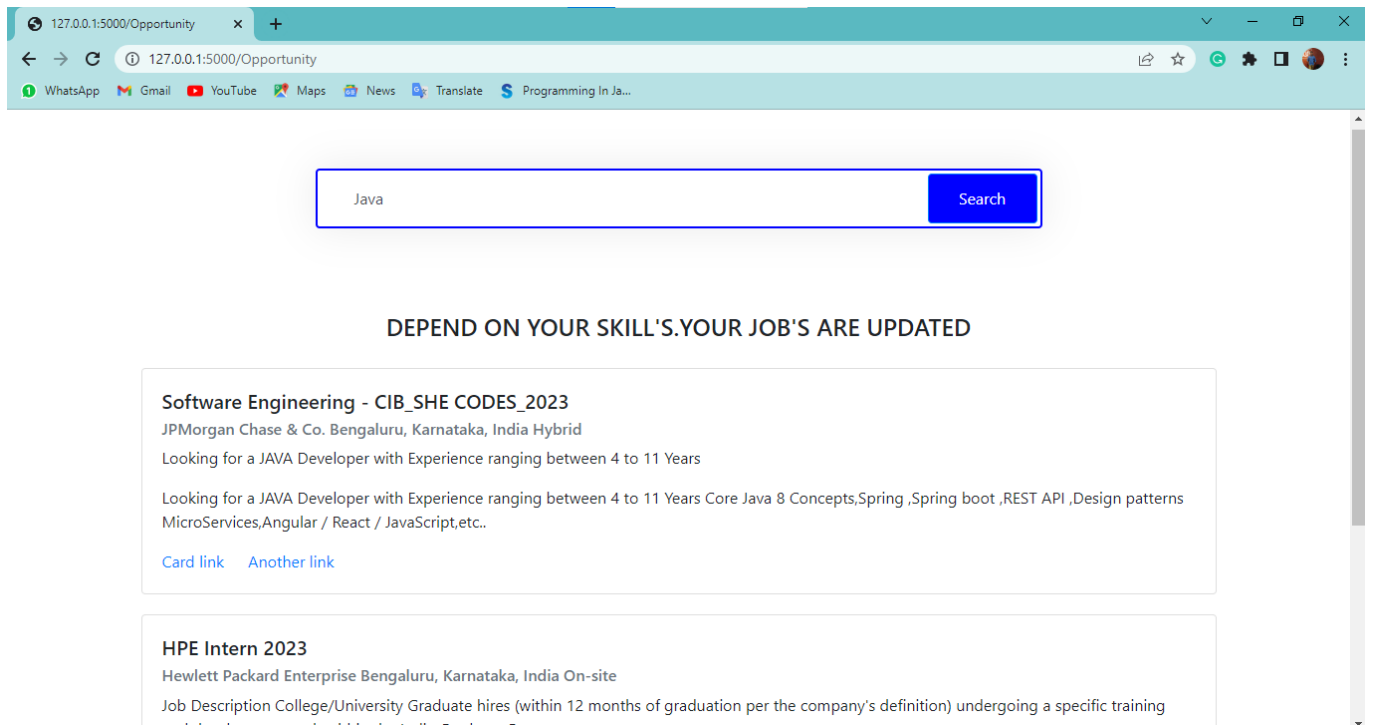
Infosys
Infosys-Model-Placement-QA
Established in 1981, Infosys is a NYSE listed global consulting and IT services company with more than 345k employees. From a capital of US\$250, we have grown to become a US\$ 17.53 billion

IT STATUS PAGE

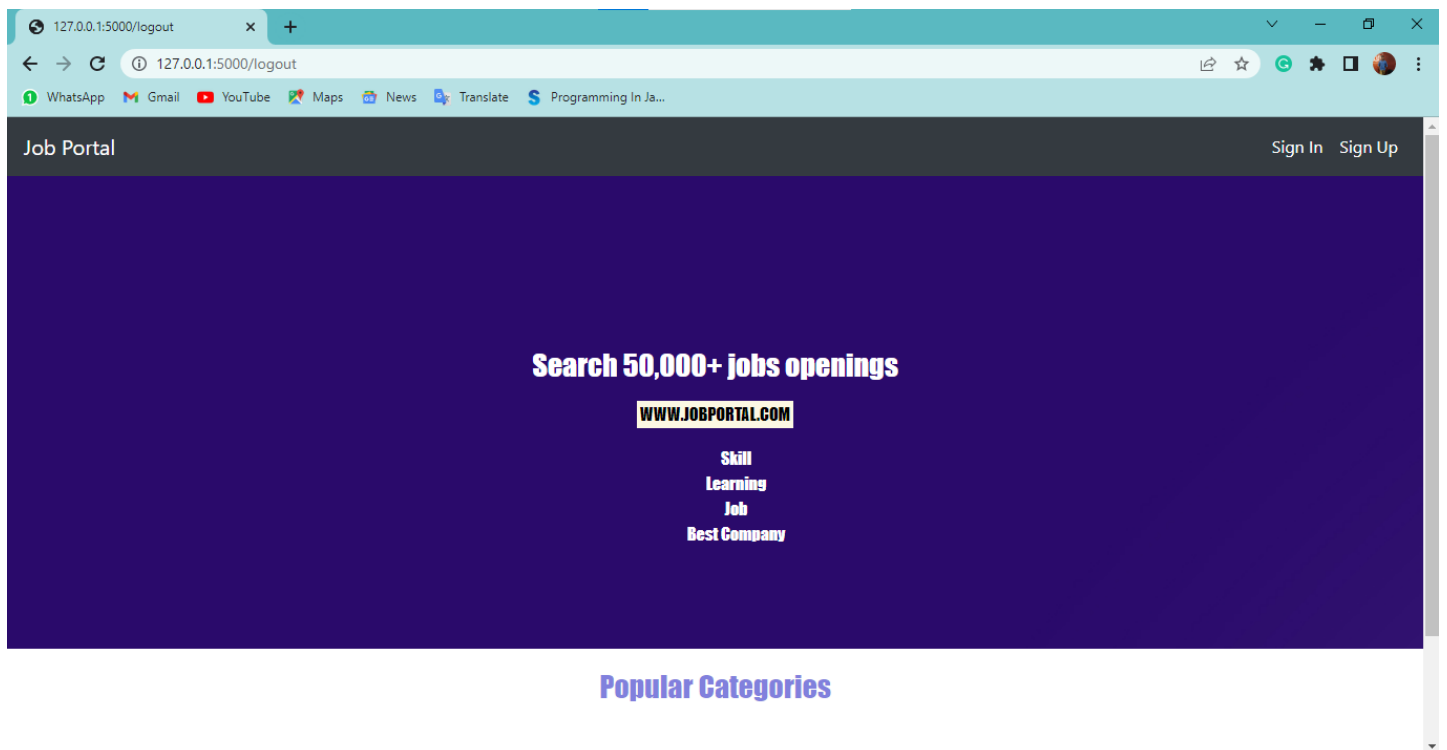
Easily Find Your Career Growth

Rank No	Name	Revenue	Market Cap	Total Assets	Promoter Holding	Listed Stock Exchange	Ticker Symbol
1	TCS	Rs 1,95,772 Crore	Rs 11,81,636 Crore	Rs 1,40,924 Crore	72.30%	BSE & NSE	TCS
2	Infosys	Rs 1,23,936 Crore	Rs 6,48,039 Crore	Rs 1,16,729 Crore	13.11%	BSE & NSE	INFY
3	HCL Tech	Rs 35,673 Crore	Rs 2,58,660 Crore	Rs 54,693 Crore	60.72%	BSE & NSE	HCLTECH
4	Wipro	Rs 50,299.40 Crore	Rs 2,31,235 Crore	Rs 65,688 Crore	73.02%	BSE & NSE	WIPRO
5	Tech Mahindra	Rs 45,761 Crore	Rs 1,19,638 Crore	Rs 39,601 Crore	35.7%	BSE & NSE	TECHM
6	Mindtree	Rs 10,832.60 Crore	Rs 55,590 Crore	Rs 8,157.30 Crore	61%	BSE & NSE	MINDTREE
7	Persistent Systems Ltd.	Rs 2,412.40 Crore	Rs 25,243 Crore	Rs 3,993.80 Crore	50.18%	BSE & NSE	COFORGE
8	L&T Infotech	Rs 6,722.10 Crore	Rs 40,458 Crore	Rs 5,066.20 Crore	73.88%	BSE & NSE	LTTS
9	Mphasis	Rs 12,121.89 Crore	Rs 40,486 Crore	Rs 9,364.66 Crore	55.72%	BSE & NSE	MPHASIS
10	Oracle Fin Service	Rs 5,355.80 Crore	Rs 27,674 Crore	Rs 8,152 Crore	73.02%	BSE & NSE	OFSS

JOB OPPORTUNITY PAGE



LOGOUT PAGE



8. TESTING

Software testing is used to assess the quality of the product. Software testing can also provide an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation.

8.1 Test Cases:

Testcase1: Does the flask application is perfectly created and in works in very good condition?

Testcase2: Does the Send-Grid integration is working correctly?

Testcase3: Does the db2 is perfectly connected to the application? **Testcase4:** Can the chat-bot which is created using Watson assistant is recommending correctly the job for the end users?

Testcase 5: Whether the application is working correctly without any interruptions?

8.2 User Acceptance Testing

User acceptance testing is a type of testing that is used to determine whether or not a software system is suitable for use by end users. It is the process of verifying that a system meets the requirements of the user and that the user is able to use the system for its intended purpose. User acceptance testing (UAT) is a process of verifying that a system meets the needs of the end users and that they are able to use it. This can be done through a variety of methods, such as interviews, surveys, or observation. UAT is important in water quality analysis and prediction because it helps ensure that the system being developed will be useful to those who will be using it. By testing with act users, developers can get feedback on the system and make sure it is meeting the needs of the users.

9. RESULTS

9.1 Performance Metrics

a) Implementation of web application:

To create the web application to interact with the users. The users here is commonly job seeker and job provider. Login, Signup, Job searching have separate pages where we can access into different work functions.

b) SendGrid Integration:

The flask application that we created is to get integrated with sendgrid which provide the e-mail interface for communication purpose.

c) Developing chatbot:

To develop a chat-bot so that, that can be very interactive to the users who are using the application and to recommend the jobs based on the job seekers interests.

d) Deployment of Application:

Finally the developed application is to deployed in the cloud.

1 .Accuracy

The accuracy metric is one of the simplest Classification metrics to implement, and it can be determined as the number of correct predictions to the total number of predictions.

To implement an accuracy metric, we can compare ground truth and predicted value in a loop.

10. ADVANTAGES AND DISADVANTAGES

Advantages:

- The main advantage of our application is that there is a direct one way communication between the job seeker and the job recruiter.
- There is a chat-bot which gives the directions to the users what to do and not to do and also it recommends the jobs based on the job seekers interests.
- The application is an open source one which doesn't asks for the money.

Disadvantage:

- One disadvantage of the application is that it is not a full paced one.
- Another disadvantage of skill / job recommender application is that it is unaware of machine language stack. No AI is implemented here.
- Skill / Job Recommender Application is used in many domains despite of professionals.

11. CONCLUSION

In this work, we have presented our proposal for the automatic recommendation of job offers. Our goal here is being able to build methods being able to deliver appropriate job offers to those job seekers that could be potentially interested on them. To do that, we have based our research efforts on two wellknown classification methods: random forests (RF) and support vector machines (SVM). Our empirical evaluation shows us interesting facts. For example, RF are more likely to be interpreted although they do not present a particularly good performance in relation to SVM. On the other hand, SVM are more accurate, although they work with a model being much harder to interpret by human. What is clear is, that in both cases, we have shown that these two methods are quite appropriate for accurately working in the context of automatic job recommendation.

There is unemployment only because of lack of skill set in their domain or fear of missing out on a job. When a job seeker is afraid of getting the desired job, he might lose the job which he really deserved for it. The main purpose of the job recommender application is to provide job opportunities for each and every single person. The only thing the job seeker wants to do is just to approach the application and apply for the job. He will be provided with the login credentials with the confirmation email. There he can find numerous job opportunities. He will be guided with the in-built chat bot, which guides the job seekers to apply for the job and recommends the availability of jobs based on their interest. The chat bot is built with IBM Watson Assistant that is very much helpful in collecting the job seeker interests and also guides them to apply for it.

12. FUTURE SCOPE

As future work, we propose to design novel computational methods being able to process the textual description from the job offers. At that point, we were using just the quantitative information that is advertised. However, we think that the way an offer is written can help attracting potential candidates as well, maybe new methods for natural language processing using neural networks could help in this task. We also would like to explore the possibilities to work with expert knowledge via kernel mapping in the case of SVM as we mentioned earlier. Finally, it is also necessary to study how to integrate this technology with existing web information systems so that these two methods can be put into operation by the industry.

