# Project Design Phase-I

## Proposed Solution

| Date | 17 November 2022 |
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| Team ID | PNT2022TMID31529 |
| Project Name | Skill and Job Recommender |
| Maximum Marks | 2 Marks |

**Proposed Solution:**

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | Unemployment gives rise to poverty, causing a decrease in production and less consumption of goods and services, contributing to the nation's economic loss. Every industry has a lot of career opportunities, but job seekers are unaware of them. The unemployability crisis can be solved if every job seeker receives the right career guidance and proper job role training. On the other hand, recruiters are finding a way to make the hiring procedure easier for choosing potential candidates. Job recruiters also search for a medium to reach out to many job seekers to promote their firm's name. So, to eradicate the unemployment crisis, for the job seekers to find a job they desire, match their qualifications and |

| | | skills, train themselves for their expected job roles and help the job recruiters find the perfect candidates, we need to develop a skill and job recommendation engine. |
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| 2. | Idea / Solution description | The skills (basic features) are extracted from the job seeker's resume using the TF-IDF technique. The job seeker's profile may get outdated sometimes as they fail to update the resume regularly. The dynamic behaviour of the job seeker is noted by observing the jobs he applied for. So, the dynamic features are extracted, which are an updated version of basic features, by making a statistic at regular intervals. The dynamic recommendation engine works as follows: A collaborative user-based filtering algorithm is used initially to overcome the cold-start problem. It takes the features extracted from the job seeker's profile and the features extracted from the job description, computes the similarity between the two using Euclidean distance, and recommends the top k similar jobs applied to generate the initial recommendation jobs. The system provides the initial recommendation to the job seeker and records his behaviour. Thus, we will be able to arrive at a set of jobs in which the job seeker is |

| | | interested and a set of jobs in which he is not interested. The extended new basic features help in updating the job seeker's profile. Thus, the job applicant is provided with new recommendations. Similarly, the same recommendation system helps provide job applicant recommendations to the job recruiters to find the most eligible candidates for their firm. Training programmes and certification courses are also recommended to job seekers based on their job interests to grow their skills. |
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| 3. | Novelty / Uniqueness | A fake job detection ML model which verifies the job postings and removes the fraudulent ones before getting listed on the platform is integrated with the recommendation engine to bring down the employment scams. |
| 4. | Social Impact / Customer Satisfaction | The job and skill recommender system is expected to reduce unemployment and improve the skills of job seekers to boost the country's economy. The customer satisfaction can be measured by customer loyalty and customer reviews after deployment of the project. |

| 5. | Business Model (Revenue Model) | A subscription model can be provided for both employees and employers with additional costs for features along with recurring monthly or yearly costs. |
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| 6. | Scalability of the Solution | In order to provide the best scalability, cloud computing is utilised. The cloud is capable of increasing or decreasing IT resources as needed to meet the changing demand and workload. |