# Project Design Phase-I
# Proposed Solution

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| Date | 03 NOV 2022 |
| Team ID | PNT2022TMID02880 |
| Project Name | Skill/Job Recommender Application |
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**Proposed Solution :**

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

| S. No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | • Dealing with the enormous amount of recruiting information on the Internet, a job seeker always spends hours to find useful ones. Many times, people who lack industry knowledge are unclear about what exactly they need to learn in order to get a suitable job for them. We address the problem of recommending suitable jobs to people who are seeking a new job. We formulate this recommendation problem as a supervised machine learning problem. |
| 2. | Idea / Solution description | • The skills 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 The job seeker's profile may get outdated sometimes as they fail to update the resume regularly.<br>• 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.<br>• 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.<br>• 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. |
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| | | • 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. |
| 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.<br>• This will prevent the job seeker from getting trapped with fraud one. |
| 4. | Social Impact / Customer Satisfaction | • The job & skill recommender system will minimize the unemployment and improve the skills of job seekers to boost the country's economy.<br>• 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 will be provided for both employees and employers with additional costs for features along with recurring monthly or yearly costs. |
| 6. | Scalability of the Solution | • In order to provide the best scalability, cloud computing is utilised.<br>• The cloud is capable of increasing or decreasing IT resources as needed to meet the changing demand and workload. |