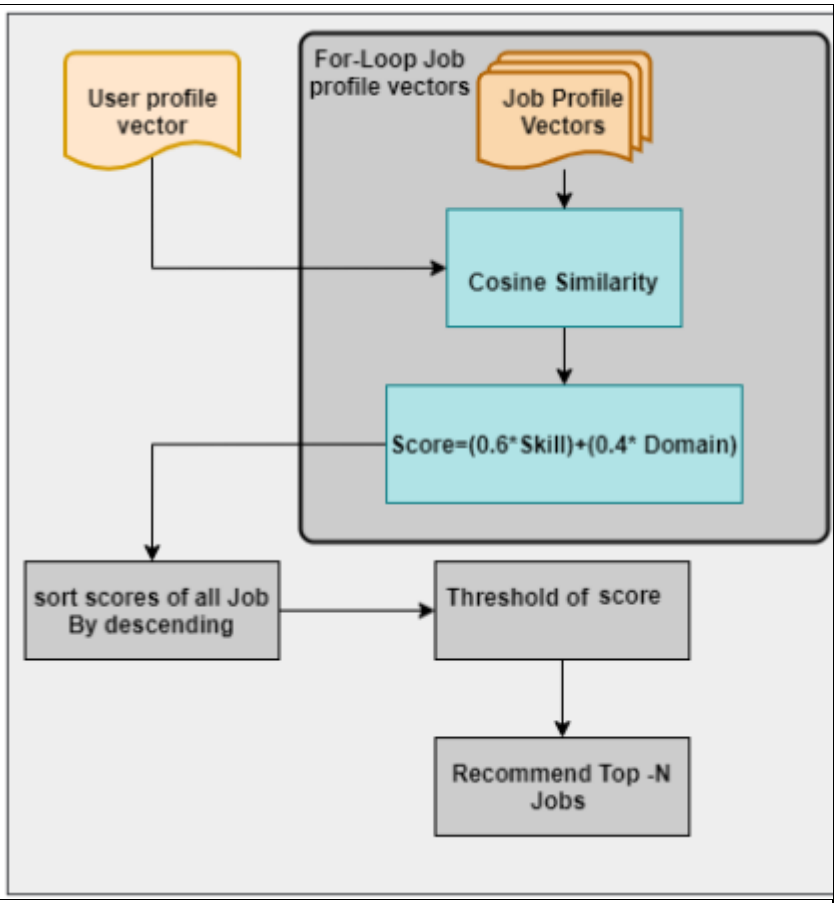
Project Design Phase-I
Proposed Solution

Team ID	PNT2022MID48792
Project Name	Skill and Job Recommender

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The dataset used for this research are sourced from Stack overflow survey data which is modelled as the user data for this research. Another dataset was created by web scrapping the Job board Using R programming language to fulfill the road map of this dissertation. The research question proposed by this research is “Can an efficient recommender system be modeled for the Job seekers which recommend Jobs with the user’s skill set and job domain and also addresses the issue of cold start”.
2.	Idea / Solution description	Implement a recommender system to recommend jobs from the list of job dataset for a particular user based on the user profile vector; Which includes the details such as what language user would like to work on, what frameworks he has worked on, what was his role or domain of his work. This information is utilised to check similarity between the job profile vector. This led to generation of score against each job. The score is filtered using the rating scale approach, where we set a particular threshold value and subset the recommendation list by considering jobs with score greater than threshold value. To select the threshold, we performed the evaluation by taking random user for analysis of best threshold value for the recommendation .
3.	Novelty / Uniqueness	As early as 1999, Baeza-Yates and Ribiero-Neto briefly discussed the novelty in information retrieval, the novelty of a retrieval set has been defined with respect to the end-user as the proportion of known and unknown relevant items in the recommended list[17]. That is, given is the set of items in R that the user likes, L can be partitioned as into those items, is already known items to the user and Lu is unknown items to the uer. Then the novelty is NOVELTY(R)=[LU]/[L].
4.	Social Impact / Customer Satisfaction	Advantage: Use many attributes. Transition history is included. Disadvantage: _One way recommendation. – No relational aspects are included. – Scalability, ramp-up, and data sparsity problems.

5.	Business Model (Revenue Model)	
6.	Scalability of the Solution	Therefore, We conclude that job recommendation system with analysis of job description to recommend a job based on user's skills and preferences presents itself as worthy Recsys model in recommending open position to the job seekers when looking for a new positions. Thus, among the different threshold and filtering techniques, we chose to model the recommender system using content-based filtering which is achieving F1-score of 66% with the threshold of 0.3 with average coverage of 53%.