

CS 387: Database and Information Systems Lab

Project proposal: **Placement Portal**

Monday 7th March, 2022

Contents

1	Team members	2
2	Placement Portal	2
3	Key concepts	3
4	Project goals	3

1 Team members

1. Aditya Badola (190050006)
2. Akshat Gupta (190050010)
3. Liza Dahiya (190050063)
4. Tanay Sharma (190050122)

2 Placement Portal

We plan to build a database information system (web application) that comprehensively deals with the placement-related activities and logistics. The **Placement Portal** is a one-stop platform for students, company recruiters and placement coordinators.

The system maintains the data of all the students along with their program, department, CPI, etc. A recruiter can login on the portal, create job roles and define the eligibility criterion for that role. Henceforth, the portal also stores the data of all the firms interested in placements via the portal.

The recruiter opens the job roles (a.k.a. *JAFs*) for students to apply. Students will selectively see the JAFs on their interface they are eligible for. Once the JAF closes, the recruiter shortlists the students based on various parameters including but not limited to CPI, projects, courses, etc. The recruiter can optionally conduct tests for the short-listed students (*tests are to be conducted on an external platform, however, shortlisted students can see the test details - duration, link, password - on the portal to access the test*).

The portal allows the recruiter to add/remove the students for interviews. Once the interviews are conducted, the recruiter releases the final selections. Students who are selected in some firm are not allowed to apply for any further JAFs.

Optionally, we plan to keep an entity **Coordinator**. Each recruiter will be appointed a coordinator to help him/her throughout the process. Similarly, a coordinator will be assigned various firms. He/she can see the firms allotted to him/her and associated features to manage the JAFs, shortlists and selections.

The portal will also have details of various firms and departments. Moreover, it will show various statistical figures such as department-wise placements, number of selections of a particular firm in the past five years, etc.

3 Key concepts

- Building ER Model to precisely define the entities like student, recruiter, department, etc and their relations
- Deriving the **normalized** schema and DDL file from the ER Model with the required integrity constraints
- Writing efficient queries in *PostgreSQL* to selectively fetch data to show on the interface (writing recursive and/or advanced queries for the same)
- Designing the frontend using *React/Angular*
- Developing the backend, preferably using *Node.js*

4 Project goals

- **Mar 20th**: Detailed enumerated english requirements, complete ER diagram, use cases in detail
- **Apr 1st**: Design document: normalized schema, DDL, script to generate all the required data, data load scripts, basic UI interface for recruiter and student
- **Apr 20th**: Functional web application with robust backend and thorough testing. The portal specifications (various features, statistical plots and tables) that we aim to achieve are in **Placement Portal** section.
(optionally if time permits, we plan to add more features such as interview preference form, interview scheduling, etc. that involves writing extensive queries. We also plan to improve the query concurrency and introduce security encryption to the portal since it carries highly sensitive information)
- **TBD by Sir**: Demo, walkthrough of the portal, viva