

CS3120 (CS Sem VI, Jan-May 2020)

Database Management Systems Lab

Career Development Centre Website - Team 8

Chandana S K | Priyanshu Shrivastav | Shruti Umat
111701009 - 111701022 - 111701027

Abstract:

The Career Development Centre (CDC) is an integral part of our institute. CDC at IIT Palakkad is responsible for inviting and scheduling companies for recruitment, conducting the selection process fairly and smoothly, managing student information and maintaining records of placement and internship offers.

The project aims to create a database to efficiently manage the data of students, companies, and offers and enable users to perform most of the functionalities on the website.

1) Requirements and features analysis:

Types of user logins:

- Admin
- Placement Officer
- Student Coordinator
- Faculty coordinator
- Student
- Faculty
- Company
- Guest (default)

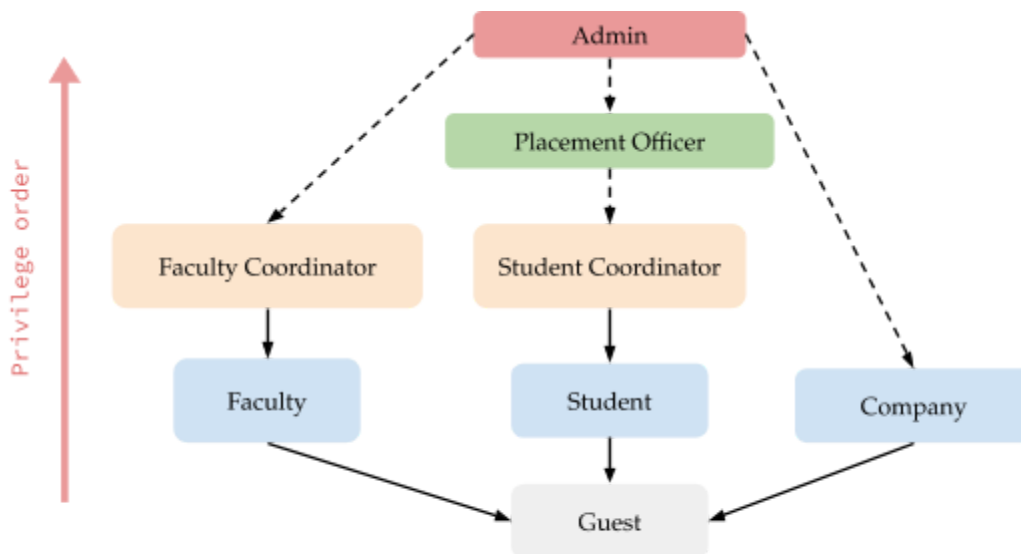


Fig.1 Privilege order among users

**** not implementing right now**

User Specific Functionalities:

Guest (default):

- View announcements - all information about selections
- View featured companies (which came for recruitment in previous years)
- Read messages/verbatim/testimonials
- Get department-wise, year-wise statistics
- View placement/internship policy and annual report
- Link to Alumni Website/Institute website
- Browse the infrastructure facilities to the placement procedure for companies

- Departments (Brochures/Projects/Innovation activities/Lab facilities etc.)
- Fetch contact details

Student:

- Everything a **guest** can do
- Register/create profile
- Request verification after completing the profile
- View open internship/job profiles (openness of a profile is department and (or) year dependent) and past applications
- Filter companies based on several parameters (like location, skillset, time period, stipend/CTC, rating)
- Get calendar view for deadlines and scheduled processes for companies that the student had applied to
- ** In the case of timing clashes, the ability to request rescheduling
- Access test links, view results and accept/decline offer letters from the portal
- ** Give feedback/ratings (selection process / post-completion) about companies (can be viewed by everyone except companies and guests)
- Should not be able to apply for companies after accepting an offer (unless shifting criteria* is met)
* *To be discussed later*
- Request endorsement from companies post-completion of internships

Student Coordinator:

- Everything that a **student** can do.
- Verify student profiles after they register or make changes
- View shortlisted students for every company at each phase
- Add schedule/free hours available for coordinating a company's recruitment process
- Book the auditorium/labs/conference rooms for the recruitment process

Faculty:

- Everything that a **guest** can do
- Refer companies to **Placement Officer**

Faculty Coordinator:

- Everything that a **faculty** can do
- Approve/disapprove companies upon request from **Placement Officer**

Companies:

- Everything that a **guest** can do
- Registration/Creation of company profile
- Request verification after completion of the profile
- Add/Edit multiple job profiles

- Request scheduling of test and add preferred timings
- Add/Update test links and results
- Access applicant's profile
- Shortlist applicants at different phases
- Filter applicants based on GPA, skillset, department et cetera
- Send offer letters to selected students
- Fill Travel Allowance form and upload bills for reimbursement
- Endorse students post completion of their internships for exceptional work

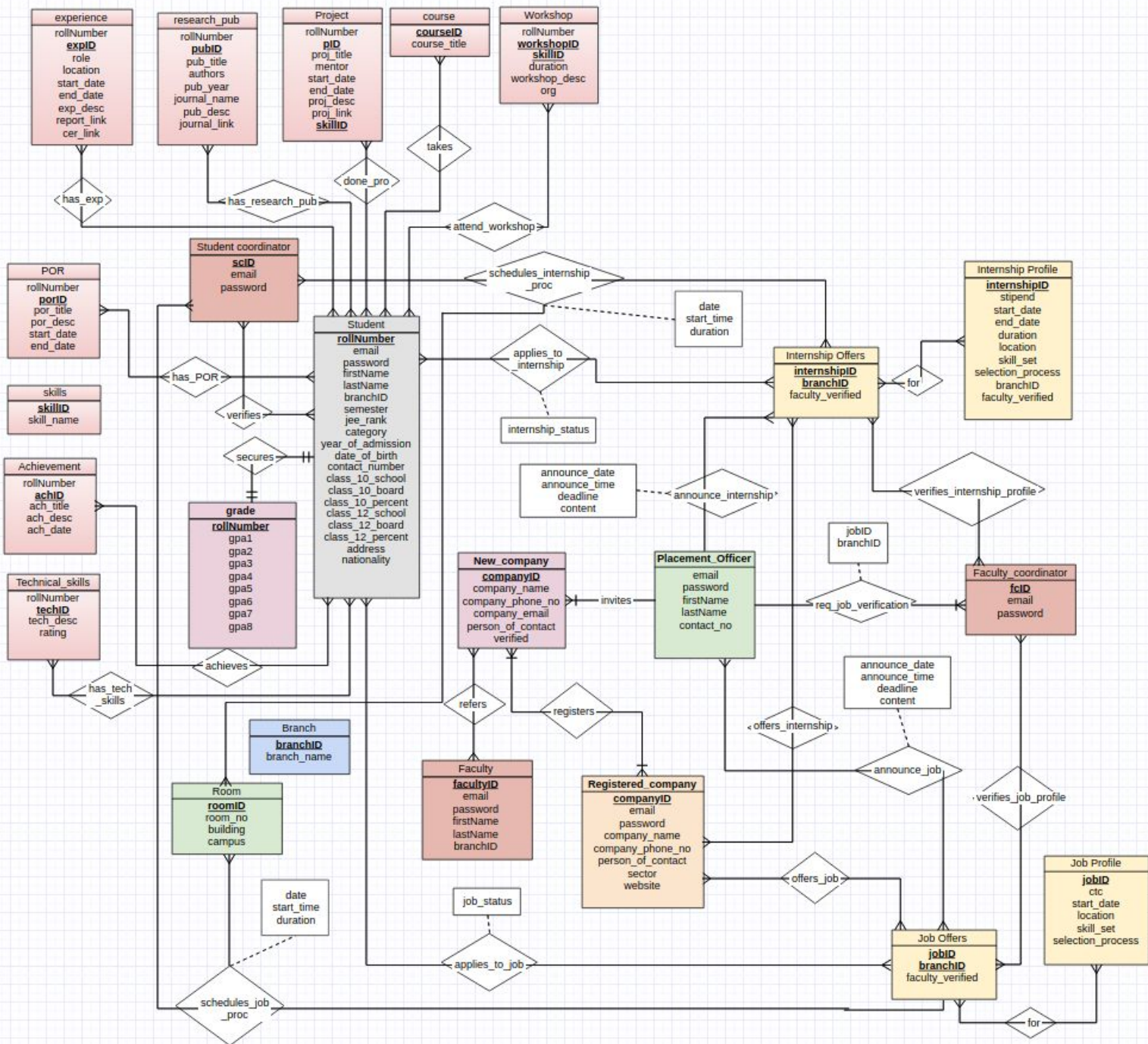
Placement Officer:

- Possesses all the privileges of a student coordinator
- Send invitations to companies
- Verify companies and job/internship profiles
- ~~Schedule recruitment processes~~
- ** Allot slots for Student Coordinator
- View placement/internship statistics (number of selected/yet to be selected students)
- Ask Faculty Coordinator for approval of a company's profile in special cases
- Block companies/students
- Add/Update announcements - all information about selections
- Add/Update featured companies (which came for recruitment in previous years)
- Upload messages/verbatim/testimonials
- Update placement/internship policy and annual report

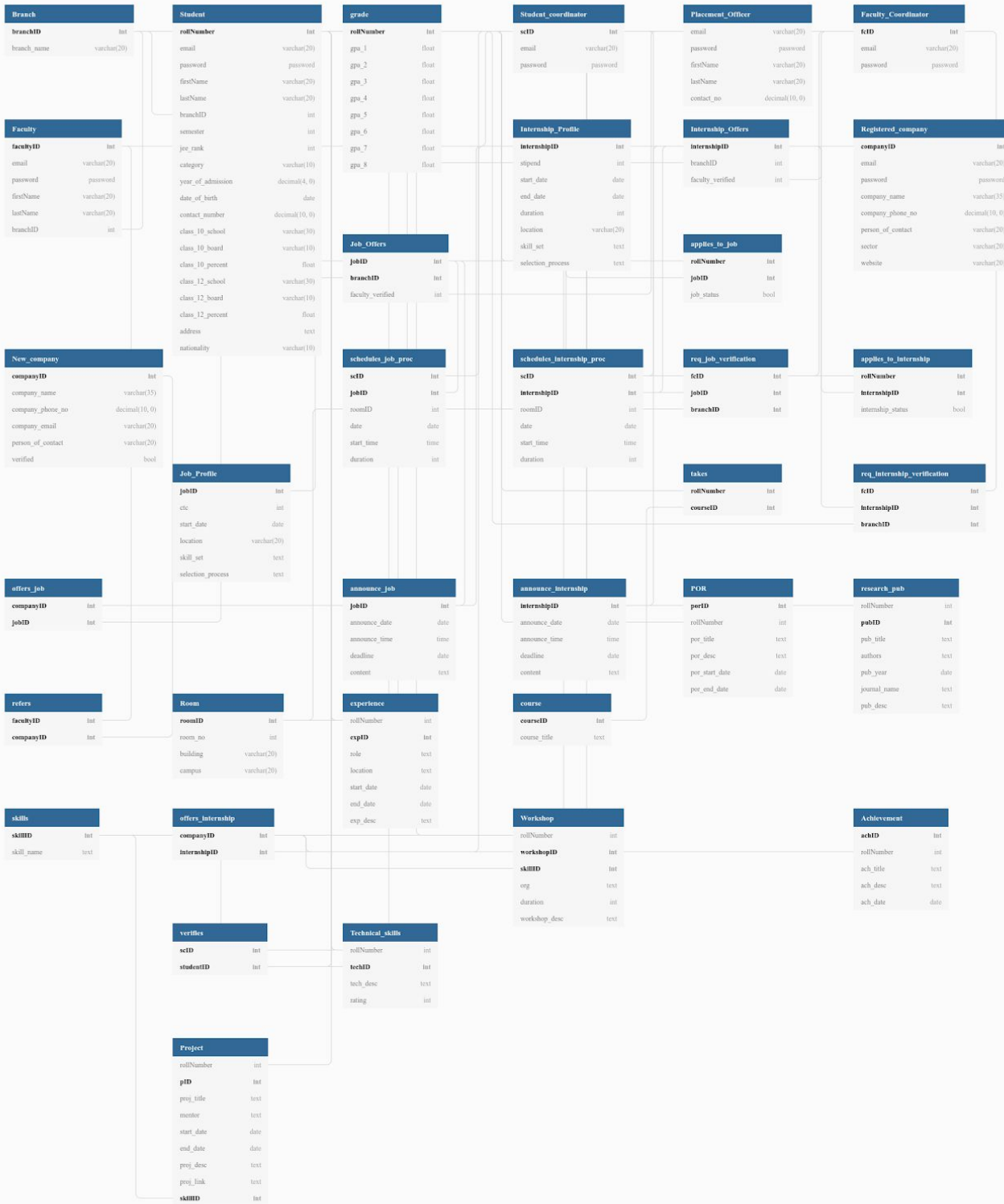
Admin:

- Possesses all the privileges

2) ER Diagram



3) Schema Diagram



4) Database Schema

1. Branch (branch_id, branch_name)
2. Student (rollNumber, email, password, firstName, lastName, branch_id, semester, jee_rank, category, year_of_admission, date_of_birth, contact_number, class_10_school, class_10_board, class_10_percent, class_12_school, class_12_board, class_12_percent, address, nationality)
3. Student_coordinator (sc_id, email, password, branch_id)
4. grade (rollNumber, gpa1, gpa2, gpa3, gpa4, gpa5, gpa6, gpa7, gpa8)
5. Placement_Officer (email, password, firstname, lastName, contact_no)
6. Faculty_Coordinator (fc_id, email, password)
7. Faculty (faculty_id, email, password, firstName, lastName, branch_id)
8. Job_Profile (jobID, branch_id, etc, start_date, location, skills, selection_process)
9. Job_Offers (jobID, branch_id, faculty_verified)
10. Internship_Profile (internshipID, branch_id, stipend, start_date, end_date, duration, location, skills, selection_process)
11. Internship_Offers (internshipID, branch_id, faculty_verified)
12. Registered_company (company_id, email, password, company_name, company_phone_no, person_of_contact, sector, website)
13. New_company (company_id, company_name, company_phone_no, company_email, person_of_contact, verified)
14. Room (room_id, room_no, building, campus)
15. applies_to_job (rollNumber, jobID, job_status)
16. applies_to_internship (rollNumber, internshipID, internship_status)
17. offers_job (company_id, jobID)
18. offers_internship (company_id, internshipID)
19. announce_job (jobID, announce_date, announce_time, deadline, content)
20. announce_internship (internshipID, announce_date, announce_time, deadline, content)
21. req_job_verification (fc_id, jobID)
22. req_internship_verification (fc_id, internshipID)
23. refers (faculty_id, company_id)
24. verifies (scID, rollNumber)
25. schedules_job_proc (sc_id, jobID, room_id, date, start_time, duration)
26. schedules_internship_proc (sc_id, internshipID, room_id, date, start_time, duration)
27. experience(rollNumber, expID, organization, role, location, start_date, end_date, exp_desc)
28. course(courseID, course_title)
29. takes(rollNumber, courseID)
30. research_pub(rollNumber, pubID, pub_title, authors, pub_year, journal_name, pub_desc)

31. skills(skillID, skill_name)
32. Project(rollNumber, pID, proj_title, mentor, start_date, end_date, proj_desc, proj_link, skillID)
33. Technical_skills(rollNumber, techID, tech_desc, rating)
34. Workshop(rollNumber, workshopID, skillID, org, duration, workshop_desc)
35. POR(porID, rollNumber, por_title, por_desc, por_start_date, por_end_date)
36. Achievement(achID, rollNumber, ach_title, ach_desc, ach_date)

5) Schema Creation

Submitted as .sql file

6) Inserted Data

Submitted as .sql file

7) Create Authorization and Views

Submitted as .sql file

- a) **Views** for roles :
 - o) **DBA (Admin) :**

i) TPO

ii) Student Coordinator

1. Update Privilege on schedule job/internship procedure(`schedules_job_proc`, `schedules_internship_proc`)
2. Update privilege on `verifies` table

iii) Student

1. Open job/internships profiles where branch and year matches.
2. Creating filters based on
 - a. For jobs : ctc/location/skill_set
 - b. For internships: stipend/duration/location/skill_set
3. See current job/internship status for which they have applied which includes
 - a. Current status (whether he/she is still there)
4. Add POR, Achievement, Project, Technical skills, Experience, Research publications
5. View the scheduled procedure for internship/job

Update on - Tables

1. Achievement

2. POR
3. Project
4. Technical_skills
5. Workshop
6. Experience
7. Research_pub
8. takes
9. course

iv) Faculty Coordinator

1. View requested job/internship profiles for verification from TPO (select access on `req_job_verification`, `req_internship_verification`)
2. Verify job/internship profiles (update access on `Internship_Offers`, `Job_Offers`);

v) Faculty

1. Update privilege on `New_company` and `refers` table for referring/viewing companies

vi) Company

1. Update access to `Registered_company`
2. Add/Edit multiple job/internship profiles(update access on `Job_Profile`, `Internship_Profile`)
3. Access applicant's profile (Select access on `Student`, `POR`, `Achievement`, `Technical_skills`, `experience`, `research_pub`, `Project`, `course`, `Workshop`)
4. Filter applicants based on GPA, skillset, department et cetera (Can be done with the above mentioned authorization)

vii) Guest:

1. Count of students selected grouped by (seperate for Internships and jobs)
 - a. company ID
 - b. Branch
 - c. Sector
 - d. Year
2. Fetch Contact Details
 - a. Faculty coordinators
 - b. TPO
3. View Registered companies grouped by
 - c. Branch
 - d. Sector
 - e. Placement / internship

8) Functions and procedures

Placement Officer -

1. Request Verification for job profile: req_job_verify_proc
 - i/p: fcId, jobID, branchID
 - Adds the entries to the req_job_verification table
 - Rest is done by the faculty coordinator
 - In Job_Offers table: 0 -> not asking for faculty verification, tpo verifies (default)
fcID -> the one who verifies
-1 -> rejected by the faculty coordinator
2. Request Verification for internship profile: req_intern_verify_proc
 - i/p: fcID, internshipID, branchID
 - Adds the entries to req_internship_verification table
 - Rest is done by the faculty coordinator
 - In Job_Offers table: 0 -> not asking for faculty verification, tpo verifies (default)
fcID -> the one who verifies
-1 -> rejected by the faculty coordinator
3. Assign faculty_coordinator role: assign_fc
 - i/p: username, hostname
 - Assign faculty_coordinator role to the input username
4. Assign faculty role: assign_faculty
 - i/p: username, hostname
 - Assign faculty role to the input username
5. Assign fstudent_coordinator role: assign_sc
 - i/p: username, hostname
 - Assign student_coordinator role to the input username
6. Assign student role: assign_student
 - i/p: username, hostname
 - Assign student role to the input username
7. Assign new_company role: assign_new_comp
 - i/p: username, hostname
 - Assign new_company role to the input username
8. Assign company role: assign_reg_comp
 - i/p: username, hostname
 - Assign company role to the input username
9. Block companies
 - i/p: company id
 - Revoke all privileges from that user
10. Block students

- i/p: studentId
 - Revoke all privileges from the student
11. Unblock students
- i/p: studentId
 - Assign role student to studentId

Faculty -

1. Refers company to TPO
 - ip - company name, phone number, person of contact, faculty ID
 - If company name already exists in New_company table, just insert current faculty ID and company ID into refers table
 - Else insert the company in New_company table and then do the above

Faculty Coordinator -

1. Verify internship_offers
 - ip - faculty ID, internship offer ID, result (can be -1 [rejected] , 0 [undecided], 1 [accepted])
 - If the result is 1 (which indicates that the offer was accepted by the faculty), the faculty's faculty ID is stored in the faculty_verified attribute of Internship_Offers table.
 - Else the result is stored into faculty_verified [0 - undecided ; -1 - rejected]
2. Verify job_offers
 - ip - faculty ID, job offer ID, result (can be -1 [rejected] , 0 [undecided], 1 [accepted])
 - If the result is 1 (which indicates that the offer was accepted by the faculty), the faculty's faculty ID is stored in the faculty_verified attribute of the Job_Offers table.
 - Else the result is stored into faculty_verified [0 - undecided ; -1 - rejected]

Companies -

1. Create new company (user)

createNewCompUser

 - Ip - 'username', 'hostname', 'pwd'
 - creates a user in the respective hostname with the given username and password. Also it grant new_company role to this new company user.
 -
2. Registration of company

addNewCompDetails

- ip - name, phone, email, poc
- Inserts a new entry into New_company table

3. Access CV

- ip - rollNumber
- Given a roll number fetches all items corresponding its entry from the CV table