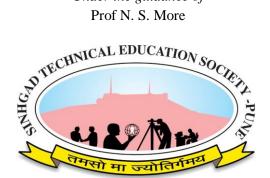
A Project Report

TRAINING AND PLACEMENT MANAGEMENT

by

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Under the guidance of



Sinhgad Institutes

Department of Information Technology Smt. Kashibai Navale College of Engineering, Pune-41 Accredited by NBA

> SAVITRIBAI PHULE PUNE UNIVERSITY 2020-2021

Sinhgad Technical Education Society,

Department of Information Technology Smt. Kashibai Navale College of Engineering , Pune-41



Date:

CERTIFICATE

This is to certify that,

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of class T.E IT; have successfully completed their project work on "TRAINING AND PLACEMENT MANAGEMENT SYSYTEM" at Smt. Kashibai Navale College of Engineering, Pune in the partial fulfilment of the Graduate Degree course in T.E at the department of Information Technology, in the academic Year 2020-2021 Semester – I as prescribed by the University of Pune.

Prof. N. S. More Guide

Prof. R. H. Borhade. Head of the Department (Department of Information Technology)

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Acronyms

JDBC JAVA DATABASE CONNECTIVITY

ODBC OPEN DATABASE CONNECTIVITY

TPO TRAINING AND PLACEMENT OFFICER

RDBMS RELATIONAL DATABASE MANAGEMENT SYSTEM

Abstract

The basic purpose of the project "**TRAINING AND PLACEMENT MANAGEMENT SYSTEM**" is to develop software that keeps the records of training and placement activities in college, makes an interactive GUI where TPO can manage details of students on his console, he can notify to students about placement company schedules. This project has a wide scope. This project contains the most important i.e. displaying the personal and academic details of student and company. The project allows a TPO to enter the information of a company which is then stored in the corresponding tables in the main database. He can also delete the student and company information after placement is over from the main database.

This project is aimed at developing a desktop application for the Training and Placement Management. The system is an online application that can be accessed throughout the organization and outside as well with proper login. This system can be used as an application for the TPO of the college to manage the student information with regards to placement.

Introduction

1.1 Motivation

Training and Placement Management System is for students and TPO (Training and placement officer). It makes students' lives easier by keeping them up to date about all the company placement schedules and allowing them to apply through the portal. TPO can now easily keep track of students applying to companies, view and update placed students, view reports as to which company recruited how many students.

The main objective of this system is to execute all the Training and Placement activities smoothly and efficiently.

1.2 Problem statement

To develop a software for managing the activities of TRAINING AND PLACEMENT.

This system includes the following:

- Collection of student's information which includes his personal details and academic details.
- 2. Information of different companies.
- 3. Collection of different types of posts available in the company, basic requirements for that post.
- 4. Management of salary that will be given to new recruits.
- 5. Maintenance of number of students applying for specific post and number of new candidates to be selected foe specific post.

1.3 Framework of proposed work in project

The software will be available as JAR file. Every computer with Java installed will be able to run the application. This computer needs to be in the college VLAN to be able to access the database and proper functioning of the application. So, any student can use this application easily by registering and applying for companies.

Staff members can login to the system from any terminal by entering their username and password before performing any activity for logging purposes. Interactive data regarding the services to be provided by the staff embers is available in the database.

The GUI for would be developed in Java Swing Framework. The database will be maintained in MySQL. The communication between front end and database will be through JDBC.

Literature review

2.1 Introduction

Currently, the training and placement activities are very time consuming, repetitive and inaccurate.

Students need to enter their academic details again and again for each company for each position. Students also cannot easily update their details without the intervention of the administrator. They also have no way to check their eligibility quickly.

Training and placement officers have to enter the details of company again and again each time. They also have no easy way of checking the aggregate reports for e.g. company placement statistics. TPO has to perform various complex tasks for maintaining the whole database. He has to go through all records to maintain and arrange them properly.

The system being designed is user-oriented. It simplifies the process of placement.

2.2 Existing methodologies

Following are the existing methodologies:

- No single source of truth regarding students' information
- The student has to fill different information every time at different companies.
- TPO has to perform various complex tasks manually for maintaining the whole database.
- No distinction between creator of schedules

2.3 Proposed methodologies

Following are the proposed methodologies:

- Up-to-date information regarding students' academics and other personal details.
- Single click application for company placement.
- Consolidated data of companies, students and schedules.
- Dashboard with customisable reports.
- Timely updates to students regarding placement schedules.

Software requirement specifications

3.1 Software requirements

Following are the software requirements

- NetBeans IDE
- MySQL

3.2 Hardware requirements

Following are the hardware requirements

- Intel Pentium-based processor (Minimum 1.7GHz Pentium 4 Processor)
- Minimum 40GB HDD
- Minimum 256MB RAM
- Monitor
- Keyboard
- Mouse

Assumptions

4.1 General Assumptions

Following are the general assumptions in the developed software:

- All the entries those are to be entered are less than the length which is already defined for each attribute.
- The training and placement system contains the following objects:
 - Company (5 types of rides have been defined)
 - o Schedule
 - o Person
 - Department
- The following different types of users have been defined:
 - o TPO
 - o Student

4.2 Assumptions for students

The assumptions from the point of view of a student are as follows:

- Every student is automatically allotted a student ID on registration which is the primary key for the corresponding table. This student ID cannot be changed at any point by any user of the software.
- Each person can be a TPO or a student. An id of 0 in person table denotes Student and 1 denotes TPO.

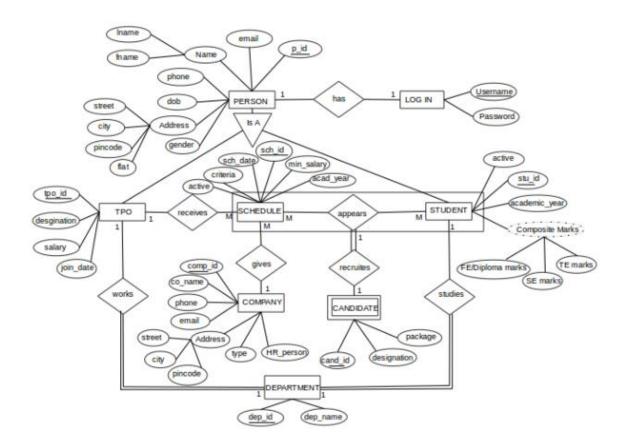
4.3 Assumptions for TPO

The assumptions from the point of view of a TPO are as follows:

- Every TPO has a unique username and password which is used to login to the software.
- Only TPO can enter company details.
- TPO can view data of all companies and all departments' placements.
- The package specified in scheduled is total CTC(Cost to company).

E-R Diagram

E-R model i.e. Entity Relation model is based on a perception of real world that consists of set of basic objects called entities and relationship among these objects. In the E-R diagram shown below, there are 10 entity sets. The entity sets are related to each other and are shown related to each other by a diamond. Each entity contains some attributes which are related to it. A primary key is nothing but a key chosen by a designer as the principal means of identifying entities within an entity set. A primary key is represented in an ellipse by a line under it. Cardinality of relationships is mentioned as one-to-one or one-to-many.



Tables

Table 6.1. Attributes of Tables.

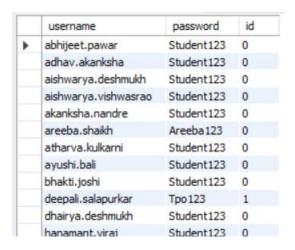
ENTITY	ATTRIBUTES	PRIMARY	FOREIGN KEY
		KEY	
Department	d_id, dep_name	d_id	
Person	city, dob, email, flat, fname,	p_id	username
	gender, lname, p_id, phone,		
	photo, pincode, street,		
	username		
Log in	username, password, id	username	
Student	academic_year, active, d_id,	stu_id	d_id, p_id
	p_id, stu_id, FE, SE TE		
TPO	tpo_id, designation, salary,	tpo_id	d_id, p_id
	join_date, p_id, d_id		
Company	comp_id, co_name, type,	comp_id	
	HR_personnel, email, phone,		
	street, city, pincode		
Schedule	sch_id, sch_date, criteria,	sch_id	comp_id, tpo_id
	acad_year, min_salary,		
	comp_id, tpo_id		
Appearing	application_id, stu_id, sch_id	application_id	stu_id, sch_id
Candidate	cand_id, designation, package,	cand_id	sch_id, stu_id
	sch_id, stu_id		

Table 6.2. Department

	d_id	dep_name
•	101	Computer
	102	IT
	103	ENTC
	104	Mechanical
	105	Civil
	NULL	NULL

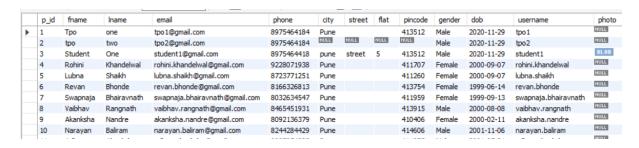
This table contains all the departments in the institution. A student or TPO can belong to single department.

Table 6.3 Login



This table contains authentication details for all software users. It also contains ID which is 0 for Student and 1 for TPO

Table 6.4 Person



This table contains personal identification details of all users.

Table 6.5 Student

	stu_id	academic_year	FE	SE	TE	active	d_id	p_id
•	9	2018	7.00	7.00	7.00	1	102	3
	10	2020	6.59	7.34	9.30	1	102	4
	11	2021	8.83	8.61	6.51	1	102	5
	12	2020	8.59	8.15	6.64	1	105	6
	13	2020	8.35	8.57	8.85	1	102	7
	14	2020	9.65	6.59	6.12	1	104	8
	15	2020	7.38	6.63	6.82	1	105	9
	16	2021	7.27	9.17	6.55	1	104	10
	17	2020	7.33	8.54	8.46	1	104	11
	18	2020	7.60	6.96	8.99	1	103	12

This table contains academic details of all students

Table 6.6 TPO

tpo_id	designation	salary	join_date	p_id	d_id
27	TPO Co-ordinator	20000	2020-11-29	1	102
28	TPO Co-ordinator	20000	2020-11-29	2	102
29	TPO Co-ordinator	50000	2020-05-03	31	101
30	TPO Co-ordinator	50000	2020-05-03	32	102
31	TPO Co-ordinator	50000	2020-05-03	33	103
32	TPO Co-ordinator	50000	2020-05-03	34	104
33	TPO Co-ordinator	50000	2020-05-03	35	105
	27 28 29 30 31 32	27 TPO Co-ordinator 28 TPO Co-ordinator 29 TPO Co-ordinator 30 TPO Co-ordinator 31 TPO Co-ordinator 32 TPO Co-ordinator	27 TPO Co-ordinator 20000 28 TPO Co-ordinator 20000 29 TPO Co-ordinator 50000 30 TPO Co-ordinator 50000 31 TPO Co-ordinator 50000 32 TPO Co-ordinator 50000	27 TPO Co-ordinator 20000 2020-11-29 28 TPO Co-ordinator 20000 2020-11-29 29 TPO Co-ordinator 50000 2020-05-03 30 TPO Co-ordinator 50000 2020-05-03 31 TPO Co-ordinator 50000 2020-05-03 32 TPO Co-ordinator 50000 2020-05-03	27 TPO Co-ordinator 20000 2020-11-29 1 28 TPO Co-ordinator 20000 2020-11-29 2 29 TPO Co-ordinator 50000 2020-05-03 31 30 TPO Co-ordinator 50000 2020-05-03 32 31 TPO Co-ordinator 50000 2020-05-03 33 32 TPO Co-ordinator 50000 2020-05-03 34

This table contains employment details regarding training and placement officer

Table 6.7 Company

	comp_id	co_name	type	HR_personnel	email	phone	street	city	pincode
١	13	Company 1	Type 1	Mahesh	mahesh@comp1.com	9423785161	Street	Pune	413512
	14	Tech Mahindra	Software	Person 1	person1@gmail.com	8535177196		Pune	417255
	15	Cybage	Software	Person 2	person1@gmail.com	8925754688		Pune	436713
	16	Cognizant	Software	Person 3	person1@gmail.com	8235002547		Pune	431075
	17	Xoriant	Software	Person 4	person1@gmail.com	8798997994		Pune	437498
	18	Amazon	Software	Person 5	person1@gmail.com	8198592915		Pune	429011
	19	Google	Software	Person 6	person1@gmail.com	8795586860		Pune	422038
	20	Facebook	Software	Person 7	person1@gmail.com	8162438922		Pune	412116
	21	Netflix	Software	Person 8	person1@gmail.com	8787416346		Pune	411193
	22	Adobe	Software	Person 9	person1@gmail.com	8662885371		Pune	426680
	23	GE	Software	Person 10	nerson1@gmail.com	8498979632		Pune	430360

This table contains details regarding the company, its address and contact person information.

Table 6.8 Schedule

	sch_id	sch_date	criteria	acad_year	min_salary	active	comp_id	tpo_id
•	7	2020-10-06	7.47	2021	1600000.00	1	19	30
	8	2020-11-03	6.63	2021	1300000.00	1	23	31
	9	2020-10-23	6.97	2021	700000.00	1	20	29
	10	2020-08-07	7.33	2021	1900000.00	1	18	30
	11	2020-10-18	6.77	2021	2000000.00	1	16	30
	12	2020-12-24	7.30	2021	600000.00	1	22	31
	13	2020-11-20	7.34	2021	1200000.00	1	27	31
	14	2020-11-06	6.08	2020	1500000.00	1	30	30
	15	2020-10-11	6.45	2020	1200000.00	1	16	30
	16	2020-10-22	6.62	2020	1100000 00	1	20	20

Schedule table contains all the placements that have been scheduled by the TPO

Table 6.9 Appearing

	application_id	stu_id	sch_id
•	2	10	24
	3	10	27
	4	10	65
	5	11	18
	6	11	32
	7	11	39
	8	11	65
	9	11	99
	10	13	55
	11	13	60
	12	13	62

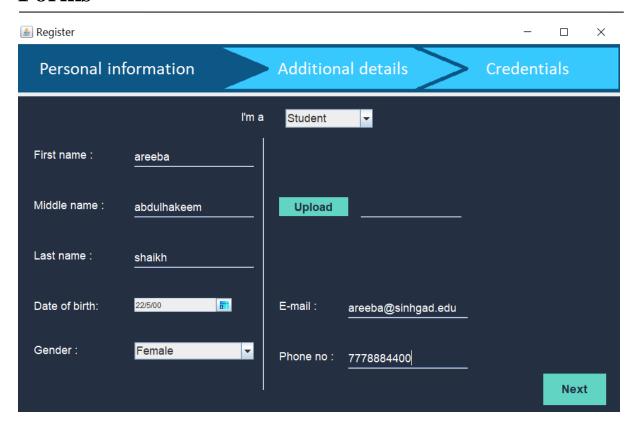
Appearing table contains student and schedule mapping of all the schedules student has applied for.

Table 6.10 Candidate

	cand_id	designation	package	sch_id	stu_id
١	1	SDE	20000.00	6	9
	2	Quality Assurance Engineer	1800000.00	33	70
	3	Software Engineer	1700000.00	28	29
	4	Quality Assurance Engineer	1700000.00	32	49
	5	Quality Assurance Engineer	1300000.00	32	101
	6	Quality Assurance Engineer	2000000.00	23	82
	7	Quality Assurance Engineer	2000000.00	28	12
	8	Technical Analyst	1700000.00	28	103
	9	Technical Analyst	800000.00	23	30
	10	C-Aurent Freiner	1200000 00	22	or.

Candidate table contains data of all the placed student

Forms



Form 7.1. Register Screen 1.

(Register screen gathering personal data of student or TPO)



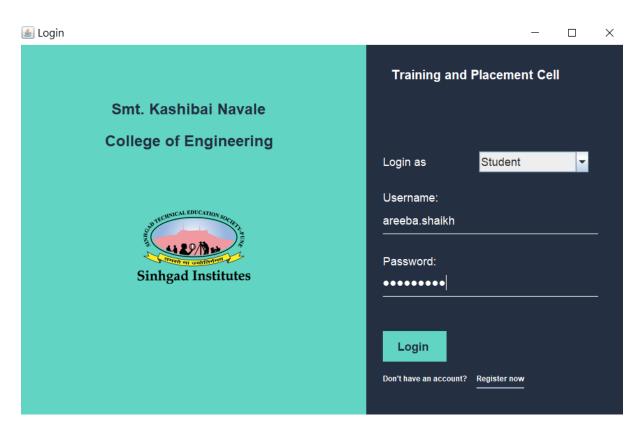
Form 7.2. Register screen 2 (student). (Collects academic details of student)



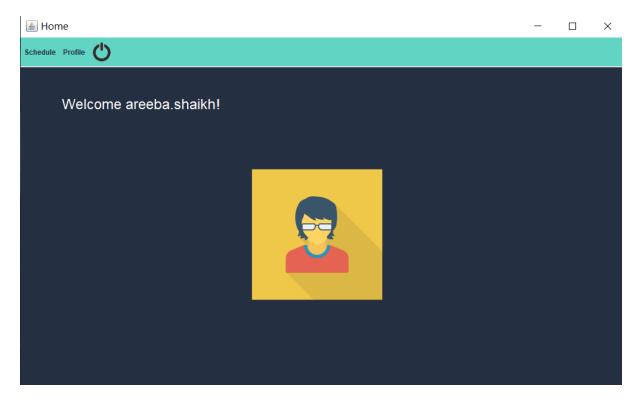
Form 7.3. Register screen 2 (TPO). (Collects employment details of TPO)



Form 7.4. Registration screen 3. (Gathers authentication details)

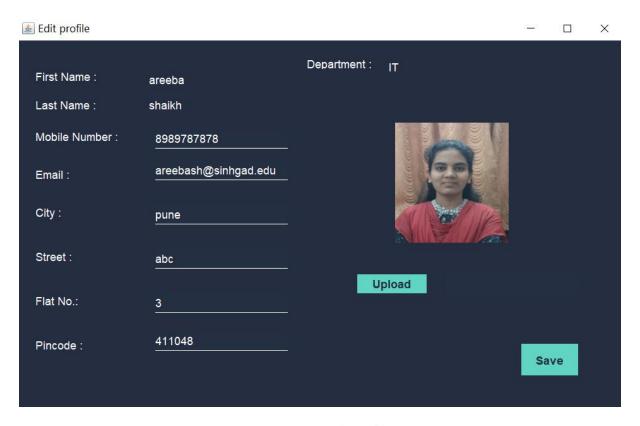


Form 7.5. Index page (User can log in or click on register now)

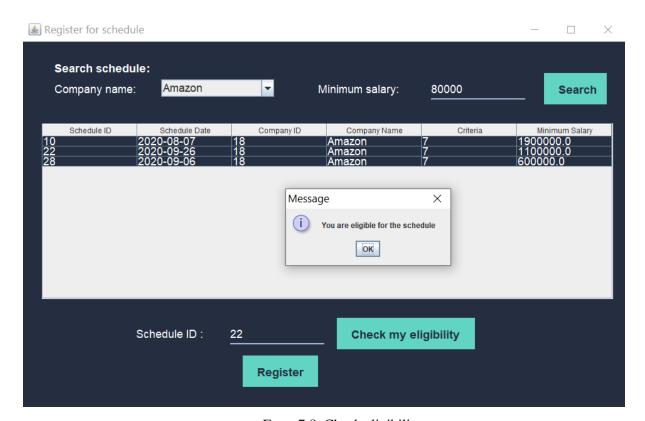


Form 7.6. Home page (student).

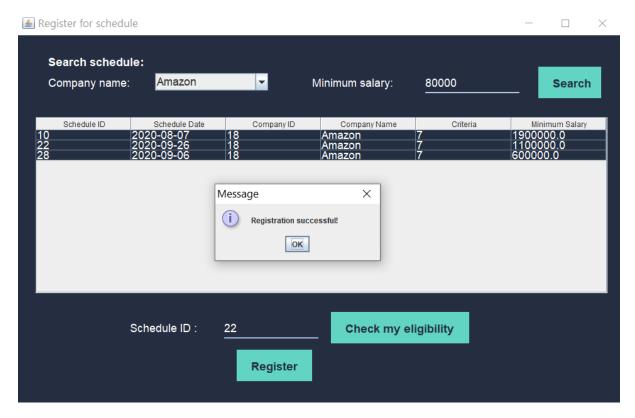
(This page shows all the actions that can be performed by student)



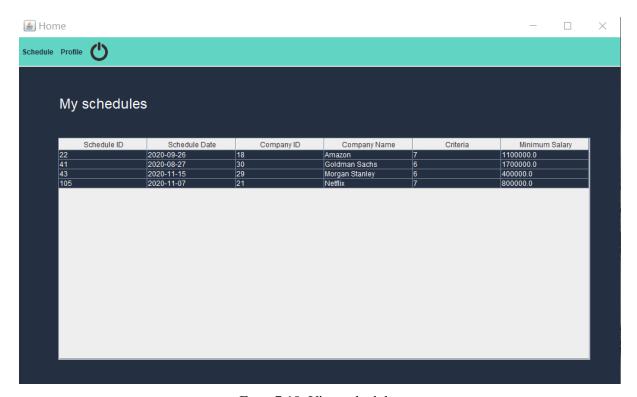
Form 7.7. Edit profile (This page allows the user to update his personal information)



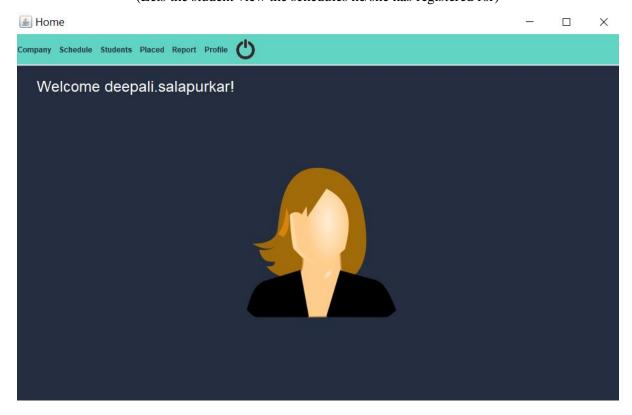
Form 7.8. Check eligibility (This page allows the student to view schedules and check eligibility)



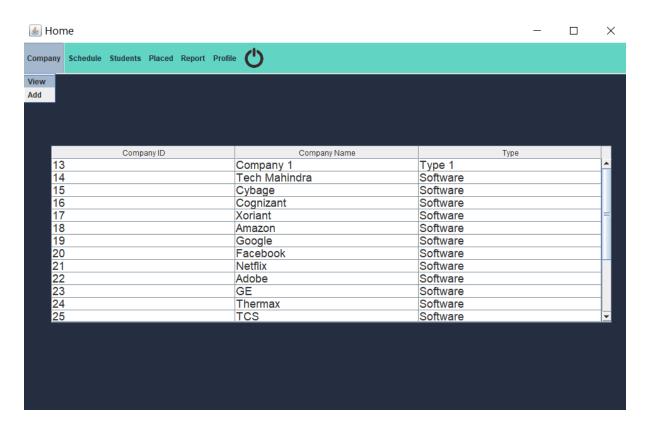
Form 7.9. Register for schedule (This page allows the student to apply for placement schedule)



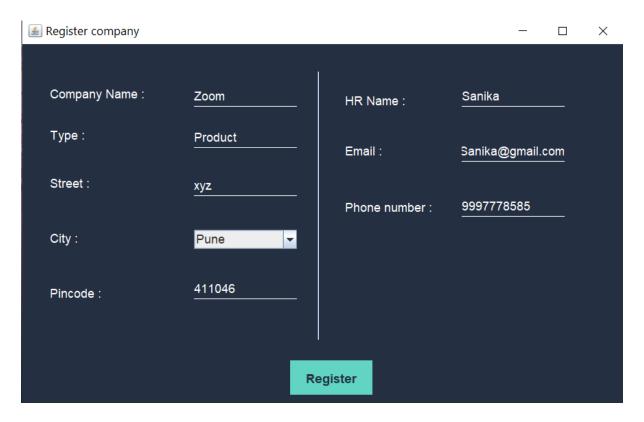
Form 7.10. View schedules (Lets the student view the schedules he/she has registered for)



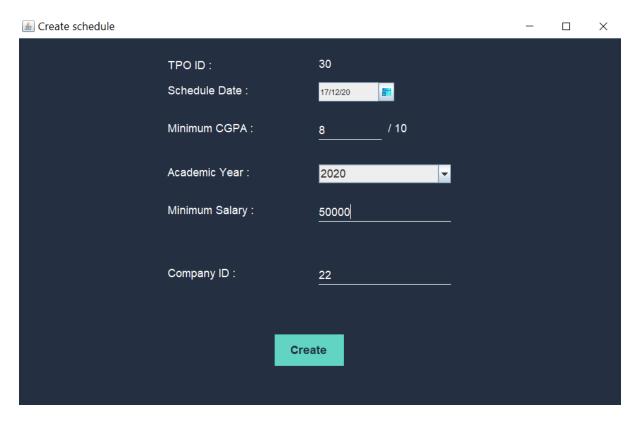
Form 7.11. Homepage (TPO). (This form provides the TPO with actions that can be performed)



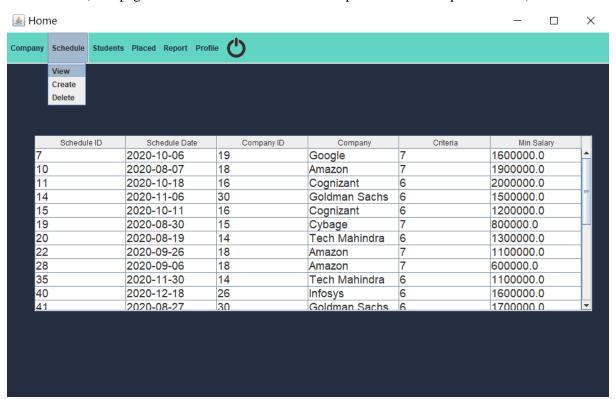
Form 7.12. View companies (Gives the information about all the companies)



Form 7.13. Add company
(This page lets TPO add new recruiter)

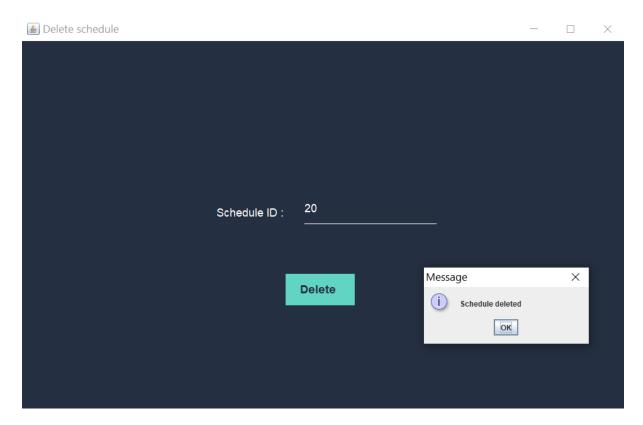


Form 7.14. Create schedule
(This page lets TPO create schedule for companies with all required details)

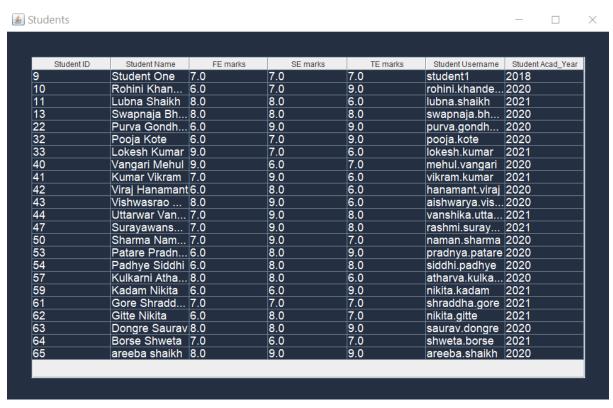


Form 7.15. View schedules

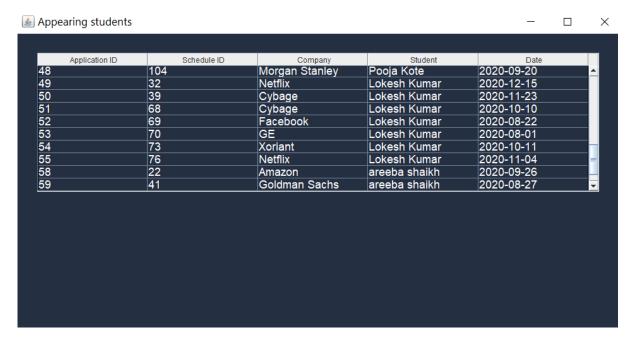
(This page lets TPO view all schedules he has created)



Form 7.16. Delete schedule
(This page lets TPO delete schedule if drive has been cancelled)

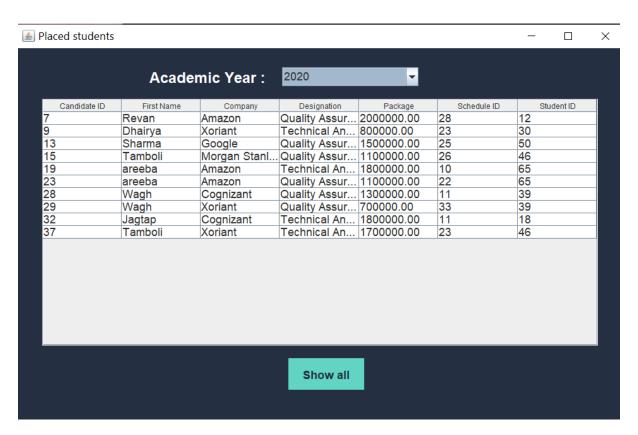


Form 7.17. View all students (This page lets TPO view all students in his department)



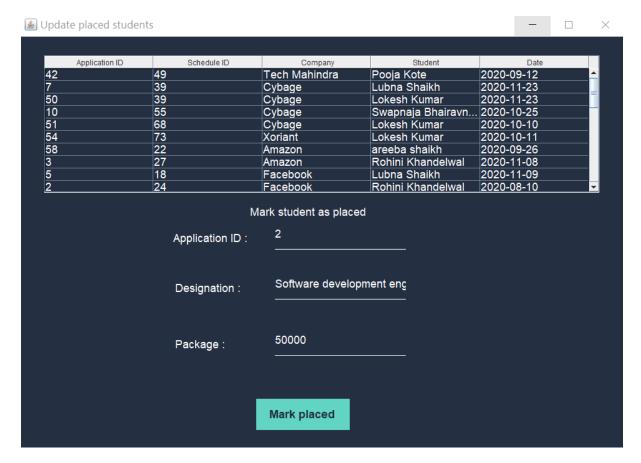
Form 7.18. Appearing students.

(This page lets TPO view all the students who have applied for schedules)

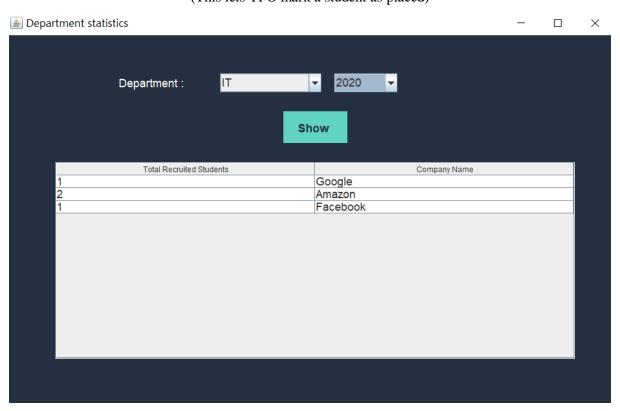


Form 7.19. Placed students

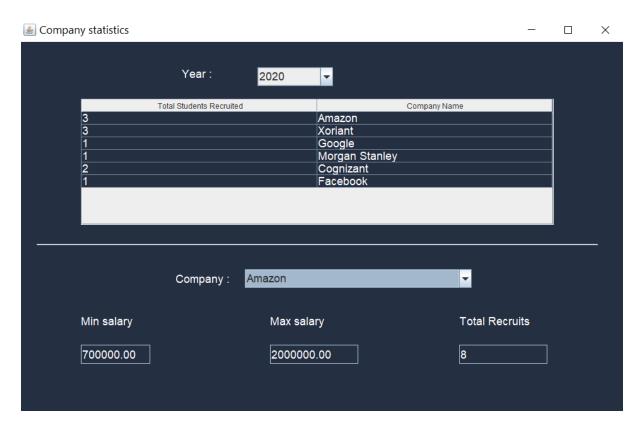
(This lets TPO view placed students along with their compensation. TPO can also filter by academic year)



Form 7.20. Update placed students (This lets TPO mark a student as placed)



Form 7.21. View department wise placement reports



Form 7.22. Company wise reports.

(This contains detailed report regarding company recruitment statistics)

Features

Training and placement management system is available on every computer on installation and connection to VLAN. This lets the student register and view schedules at their own preferred time and place. The prominent features of the software can be described as follows;

8.1 Company registration and schedule creation

TPO can add company with every minute detail. He does not have to search for, say, contact details of HR of company. He can just login and view those with few clicks. To schedule interviews, TPO can just add schedule in system and students can view them. There is no need to send separate emails or any other kind of communication to student. All the data is available in the system itself.

8.2 Single click application for placement schedule

Student does not have to go physically and look up notice boards to know details regarding all the visiting companies in placement season. Student can just login and view the schedule at the comfort of his home. The "my schedules" table on homepage keeps students on their toes regarding upcoming schedules.

8.3 Generation of Reports

Using the data in the various tables present in the database, a variety of reports can be generated in the TPO homepage. Some of these reports include:

- Department wise reports
 - o TPO can view which companies hired how many candidates
 - o This can filtered on academic year and/or department
- Company wise reports
 - o TPO can view what was the minimum and maximum package offered by a company
 - o They can also view total number of hires institution-wide
- Year wise
 - Year wise reports lets the TPO determine how the recruiters and students have been performing over the years

Conclusion

Training and placement are crucial parts of student's life. It is very important for students to have smooth experience with training and placement activities to free up their time for placement preparation. Training and placement officers are also responsible for making this happen. They can provide good experience if they have easily accessible up-to-date data at hand. Thus, this project helps in making this happen. As this project runs on community database and built in-organization, it is also very cost-effective.

References

- 1] Oracle Java Documentation
- 2] MySQL 8.0 Reference Manual
- 3] Website: https://www.javatpoint.com/java-swing/
- 4] Website: https://stackoverflow.com/