Software Requirement Specification

for

Campus Recruitment System

Version 1.0

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Submitted to :
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February 10, 2021

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1 Introduction

1.1 Purpose

The primary purpose to develop this system is to optimize the recruitment process for college. To facilitate the student and the company to register and communicate with the Training and Placement Office. Besides, this software is intended to be used as all-in-one platform to schedule campus drives and interviews with the students, and provide eligible students with information about upcoming recruiters. Further it will contain information about placement statistics and a machine learning model to predict future placements.

1.2 Intended Audience and Reading Suggestions

The document is meant for the student of the college taking part in placements, the recruiting company and the admin, who will operate the system. This document will serve as a reference document for the stakeholders in the project, the project manager and the developer who will analyze, design and implement the system. They will coordinate every activity that take place in the software engineering process and will be guided by staff of IITI Computer science & Engineering Department.

1.3 Project Scope

"Campus Recruitment Website" is a platform where students and placement cell interact with the recruiters and get information about college policies and practices to simplify and streamline the hiring process.
Features will aim to facilitate the process including sharing resume, sending offer-letter, future updates and follow up. Streamlining of these activities and transparency in procedure would be the most prominent feature of the website.
A functioning scheduling system to provide correct timeline of campus placement drives and prevent undesired clashes. The scope of this project is to provide an optimistic approach to improve the experience of recruitment and support the wellfare of the students and prestige of the institute.
The Software Development Lifecycle Model used will be Agile Development with continuous reviews and delivery cycles.

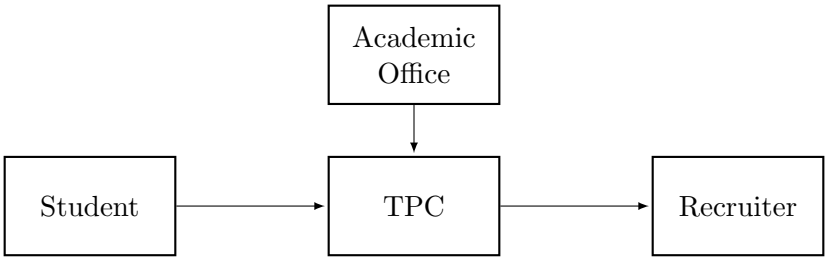

Fig-1: Model of Software

Figure 1.1 (Entire process-flow) The entire flow is supervised by authorities involving academic office and director who looks over the entire process and guides the students. TPC involves the student and faculty, and all other stakeholders functioning as a representative of students and protect their interests.

Students will fill out their bio and build their profile on the website. This will be verified by academic-office and uploaded to the website. Whenever recruiters will start their drive, The eligible students will be notified and asked to fill out a form to participate in the drive. Their profile will be kept private and only shared to the recruiter.

The dashboard for student and companies will show in detail the important analysis data, that can be used to keep track of process and will enhance utility of the software.

Once a student is selected, his offer letter and important documents should be uploaded to the platform and provision of online signature will allow for legal confirmation. This process will be supervised by the TPC and student affairs to ensure that the rights of students are protected. TPC can keep track of internships and placement record and generate required statistics.

Future improvements can be to integrate a test and video chat platform within the software to facilitate recruitment process and interview rounds.

2 Overall Description

2.1 Product Perspective

"Campus Recruitment System" is a website with main goal to inculcate technology in the process of recruitment and bring optimistic changes in this process. The main goal of this website is to improve the life-cycle of the placement process and make it more interactive and efficient.

2.2 User Classes and Characteristics

"Campus Recruitment System" has basically 3 types of users.

- Placement office
  - Director
  - Faculty Representative
  - Student Representative
- Students
- Company Recruiting Team

Placement office consists of multiple levels of management. On the top being the director, who handles the faculty and management. Then the faculty representative for different branches. Finally the students representative, who are the first point of contact for students and firms.

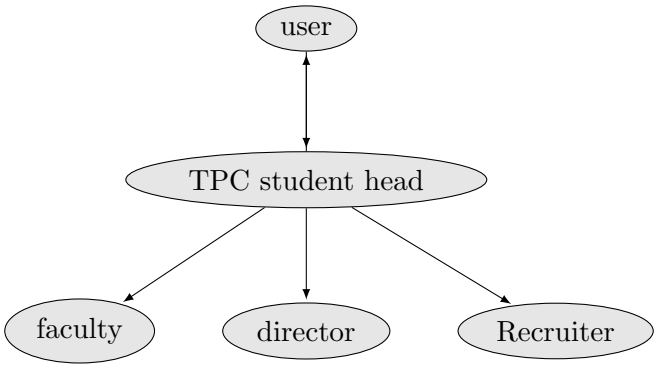

Fig-2: User hierarchy

2.3 Product Functions

"Campus Recruitment System" stores details of all students B.tech, M.tech, PHD, and stores employment status and open to work status.

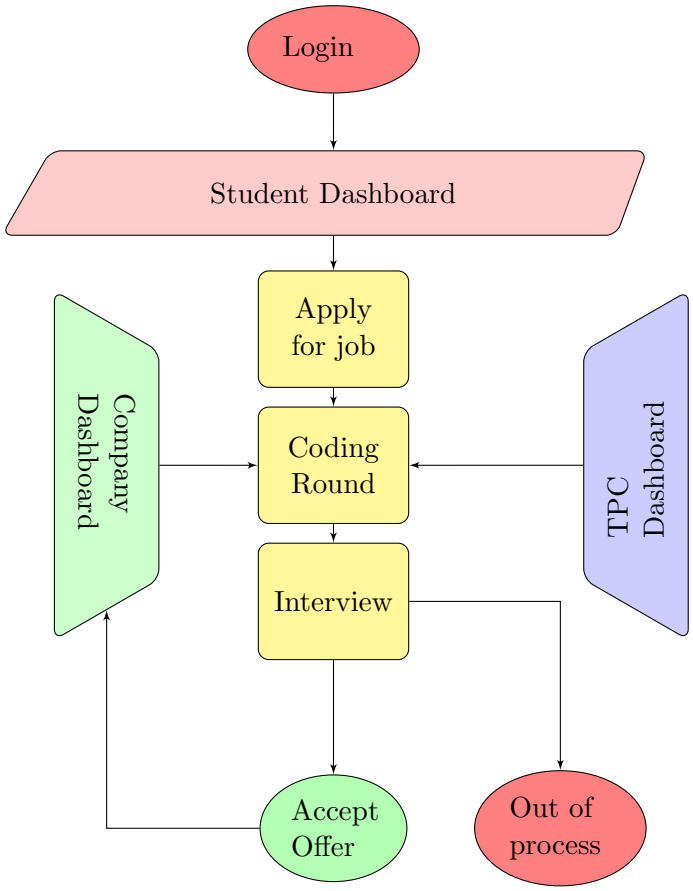

Fig-3: Process flow

New person can be added through login page, accesible by university administration only, and login details will be provided to students.

All users have - user_id, user_name, first_name, last_name, user_id, email, phone_number, present_address, parmanent_address and password_hash.

Students dashboard contains all relevant informations about upcoming recruitment drives, eligibility. It should be a dynamic dashboard, it should track placement status, and after student is placed it will show relevant information like date of joining and package details ctc and benifits.

The recruiter will have options to select recruitment dates, sort students based on parameters and take online test, to select eligibly students. Interview scheduling should be done using integrated calendar shared between student and recruiter. When companies select a student, student is displayed as "in-review". When student is selected, student should be displayed as "selected". Both these changes should be reflected in student dashboard as well as the company dashboard.

Placement analysis is an additional data analysis tool contains list of all students, sorted by date placed. Function to select using package, company_name and date_of_-joining should be provided. A machine learning model shall be introduced to predict rate of growth and future placement statistics of IIT Indore.

2.4 Operating Environment

The website will be operate in any Operating Environment - Mac, Windows, Linux etc.

2.5 Design

Login activities will have 2 steps -

- Form Fill Up Process
- Profile development

Student and companies will have to register on the website first. This process will be done under supervision of authorities. Profile development will involve basic details, past job experience and field of interest of the student. For recruiter it will contain company details.
A secure machine generated password key will be given at time of login which should be changed within 24 hours.
After login the respective dashboard will open

TPC activities will 3 steps -

- Register new member
- List of student
- Notification and mailing

TPC Placement page will have administrative access. It'll be able to monitor student and companies profile. Dashboard will provide information of all students, which can be sorted through various parameters. Notifications of new companies interested will be shown on dashboard. A simple mailing system to coordinate between recruiters should be integrated. These componets should be present as tabs on navbar and toggle required screen when clicked. For mobile/small-screens sidebar should be present.

Company dashboard will have 4 steps-

- Decide campus drive dates
- Student selection phase
- Interview scheduling
- Follow on and offer-letter submission

Recruiter should first decide campus drive dates without any clashes. This will be done using appointment fixing feature. Then company can sort applicants on basis of grades and portfolio. Interview and coding round should be held and finally selected student can be contacted and offer letter should be mailed to him/her through private share feature in for of pdf file. This should display Selected in student's dashboard and out of process for those who were not selected.

Statistic page will have 3 steps

- Display placement stats of required year
- Select best achievers, highest package offered
- Predict future placement statistics

The stats page will be implemented as 3 different UI blocks on same page which displays the placements stats of current year(2021), which can be selected through a dropdown menu and change accordingly. best achievers should be diplayed as a scrollable list with picture and placement detail of student. The ML predicted future data should be displayed as a PI chart showing percentage placed and estimated growth graph.

3 System Features

"Campus Recruitment System" is a web service. Main objective of this website is to create transparency and good communication between recruiter and students and the institute authorities.

3.1 Description and Priority

"Campus Recruitment System" has many main features and also some sub features, all of which are important for well functioning of the website.
The features with priority up to down -

1. Communication and mailing: This is main objective of this software. To reach out to recruiters and provide a suitable platform for communication.
2. Scheduling: This feature essentially prevents clashing of recruitment drives and interview dates.
3. Recruitment process: To update recruitment status provide method to conduct coding tests and interviews.
4. Placement Stats: This features displays placement stats in pie chart and graph form to provide better analysis of the data.
5. TPC admin system: They conduct training sessions and provide updates about placement drives and contact companies.

3.2 Functional Requirements

The "Campus recruitment system" website should be build on flask (python framework), React for front-end and SQL database.
Back-End - python flask
Font-End - React, JavaScript.
Database - SQL

S.no.	Feature	Priority
1	Create an Account	High
2	Log in	High
3	Change Password	Low
4	View Application	Medium
5	Post jobs	Medium
6	Schedule Drive	Medium
7	Manage Company	High
8	Manage student	High
9	Statistics	Low

Table:1 Priority of features

Feature	Remark
Register	This Functionality is used to register student, faculty and company.
Log In	This functionality is used to Login for admin, student and company.
Change Password	This functionality is used to change the password of account.
Jobs Notification	This functionality shows campus drives in near future.
Apply For Jobs	This functionality is used by student to apply for a job.
View Application Status	This functionality is used to view student application.
Search Jobs	This is the functionality which is used to search for jobs.
Student List & Sort	This functionality is used by the company to search students from list.
Schedule Drive	This functionality is used by the company to select dates for campus drive.
Schedule Interview	This functionality is used by the company to schedule interview timings.
Contact Student	This functionality is used by the company to contact to students through integrated mail.
Contact Company	This functionality is used by the admin to contact to company through integrated mail.
Manage Student	This functionality is used by the admin to manage student.
Manage Company	This functionality is used by the admin to manage company.
Stats Placements	This functionality is used by client to display placement statistics.
Prediction Placements	This functionality is used by client to predict future stats based on machine learning.

Table:2 Features specification

4 Other Nonfunctional Requirements

4.1 Performance Requirements

1. The completely separate business logic at admin side from the student interface ensures good performance.
2. The system exhibits high performance because it is well optimized. The business logic is clearly separate from the UI.
3. System should be able to scale to many users concurrently.
4. The response time of processes is as follows:
   - Student Registration max 10 seconds
   - Company Registration max 15 seconds
   - Company Job posting max 15 seconds
   - Student applying for job max 20 seconds
5. System is available 24 by 7

4.2 Safety Requirements

1. Errors will be minimized and an appropriate error message that guides the user from an error will be provided.
2. Validation of users input is highly essential.
3. The time taken to recover from the error is less than 10 second.

4.3 Security Requirements

1. The system is provided a high level of security and integrity of the data held by the system. from an error will be provided.
2. only authorized personnel such as admin can gain access to the to the private data and only the user with valid username and password is allowed to view its user page.

4.4 Software Quality Attributes

1. The key software quality attributes are Availability, Reliability and usability.
2. As the system is expected to be 24/7 working. High availability is important.
3. A simple but quality user interface is developed to make it easy to understand and required less training.
4. The error message displayed is more descriptive and can be easily understood.

4.5 Business Rules

1. System shall be available only for the particular college.
2. All the users shall access the system using a login/user-id and password. The login-id/password will be managed in a secured manner.
3. Each student can get recruitment only in one company.
4. Once company selected the candidate, it cannot be rejected otherwise company will be blacklisted.
5. Each student can have only one account.

5 Other Requirements

"Campus Recruitment System" needs maintenance as it is a long process software and will see high traffic during placement season each year. It will need re-factoring and further the requirements can be changed as the field is changing frequently. Based on feedback from the stakeholders new features can be added and issues can be resolved.