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# SOFTWARE REQUIREMENTS SPECIFICATION

for

## Online Placement Information Gathering System

Version 1.0

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# **1 Introduction**

## **1.1 Purpose**

The purpose of this project is to build an online placement information-gathering portal to help the placement department of the college, student and recruiters to ease the placement process.

## **1.2 Document Conventions**

The following standards document conventions are used in our document:  
IEEE STD 830 -1998, IEEE Standard for Software Requirement Specification

## **1.3 Intended Audience and Reading Suggestions**

This document is intended to assist the users when they use the software and for developers and the project managers to plan their project and implement the software required. This Software Requirement Specification document is divided into five subsections:

Section 1: Introduction

Section 2: Overall Description of the Software giving information about functions, user classes, operating environment, constraints and documentation.

Section 3: External Interface Requirements giving a brief introduction to user, hardware, software and communications interfaces.

Section 4: Detailed functional requirements of different features.

Section 5: List of non-functional requirements

Section 6: Other requirements

## **1.4 Project Scope**

The basic goal of this project is to build an online placement information-gathering portal, which will be helpful not only for the institute but also for the recruitment companies to have a glance at the talent in the institute. It will ease the process of applying in companies for the students and also provide them information about various companies and their recruitment policy, work environment, etc. It will help the recruitment companies as they can easily notify the students via the platform for any upcoming suitable recruitment offers.

## 1.5 References

The documents and websites referred to, are as follows:

- IEEE STD 830 -1998, IEEE Standard for Software Requirement Specification

## 2 Overall Description

### 2.1 Product Perspective

The Online Placement Information Gathering System is a self-contained product which provides a communication platform for students, companies and the institute to ease the placement process.

### 2.2 Product Functions

The following functions are provided by the software

- Login by different entities- Student, Company Admin, Institute Admin and Alumni.
- The students could upload their resume. The alumni can give their feedbacks. The company admin can enter the company details and the institute admin can enter the notifications related to the placement proceedings.
- The students can view the various notifications, the company details and the feedbacks given by the alumni.
- The company admin can view the resumes uploaded by the students to get a glimpse of the quality of student of the institute.
- The software notifies the students about any upcoming suitable recruitment for them.
- The software notifies the administrator about the companies trying to contact the college for placement.
- The software verifies if the recruiters are genuine.

### 2.3 User Classes and Characteristics

The portal consists of different subsystems for different entities logging in the system.

1. **Students:** Students can sign up in the portal and get access to the following functionalities:
  - a) Upload their resume.
  - b) View notifications regarding any upcoming recruitment opportunities, the company details and the feedback given by the alumni.

2. **Company Admin:** Companies can register in the portal and get verified to get access to the following functionalities:
  - a) View the resumes uploaded by the students to get a glimpse of the quality of student of the institute.
  - b) Provide company details such as recruitment policy,work environment etc.
3. **Alumni:** Alumni can register in the portal and get access to the following functionalities:
  - a) Alumni who have worked for various companies can write their feedback and the interested students may contact them for further information.
4. **Institute Admin:** Institute admin can login and get access to the following functionalities:
  - a) Provide announcements related to the placement proceedings.
  - b) Verifies if the recruiting companies are genuine.

## 2.4 Operating Environment

The software is an online based portal and is thus platform independent and can be used in all well-known browsers.

## 2.5 Design and Implementation Constraints

- The genuineness of the companies which apply to register on the platform can not be verified by the software, hence role of the admin is required.
- Load testing can not performed to full extent due to limitations in development server like database's storage capacity and computing power.
- Secure storage of data
- Data rate limits and storage limits by server
- Can only use features available in Relational Databases
- SQL Database scales vertically

## 2.6 User Documentation

The portal is user-friendly and a Help Section is also provided in the portal.

## 2.7 Assumptions and Dependencies

- The user must be familiar with the internet and capable to connect to the platform with a web browser.
- We assume that the admin is capable of verifying the genuineness of the companies which apply to register on the platform.
- No accessibility features are provided on the platform assuming that the disabled users' device provide those if any such users use this platform.
- Connecting and using the platform requires:
  - working internet connection
  - compatible browser



## 3 External Interface Requirements

### 3.1 User Interfaces

On opening the website it should show a landing page which shall have a navigation bar to access various features. If the user is not logged in, the navigation bar shall have only Login and Sign up button. The website shall have the following pages:

- Notifications page
- Dashboard for students which lists the various available opportunities
- Sign up and Login pages with standard Sign up/Login interface
- A page that describes the opportunity and lists related alumni to students after clicking on an opportunity in dashboard. Shall have an apply button to start application procedure.
- A page where the Institute can view all the opportunities.
- A page where the Alumni can select companies they have worked in.

### 3.2 Hardware Interfaces

The hardware interfaces for the online portal are listed below:

- The portal can be used on any platform or PC which has a proper internet connection.
- Compatible web browser is required to avoid any problems.

### 3.3 Software Interfaces

The software interface and requirements for the online portal is as listed below:

- Database Management System: SQLite3
- Operating System: Windows 10/Ubuntu (16 and above)/MacOS
- Language: Python - Django
- Browser: Chromium based browsers (Chrome, Brave, Microsoft Edge), Firefox

### **3.4 Communications Interfaces**

All the communication between different users is point to point. The communications happen via the server of the online portal and the notifications are visible on the interface. A proper internet connection is required for these communications.

## 4 System Features

This subsection provides details about the identified functional requirements of the software.

### 4.1 Sign up and Login

#### 4.1.1 Description and Priority

Takes necessary information from the user to create an account and enable login using user id and password.

#### 4.1.2 Stimulus/Response Sequences

A user has to login in order to access the features of the software. A new user should create an account by entering his personal details.

#### 4.1.3 Functional Requirements

- REQ-1: Select the login type (Student, Company Admin, Alumni). The institute admin shall already have an account as there is only one institute admin.
- REQ-2: Ask for user details based on type of user
  - Name, email-id, date of birth, phone number for students
  - Name, email-id, phone number, recruitment policy, work environment for company admin
  - Name, email-id, company, phone number for alumni

Username and password is asked for all users.

- REQ-3: Create and store user in database on account creation.
- REQ-4: Ask for username and password while logging in to an existing account.
- REQ-5: Authenticate username and password on login and display relevant message if username does not exist or if password is wrong.

## **4.2 Upload Resume**

### **4.2.1 Description and Priority**

Allows the students to upload resumes so that recruitment companies and alumni can view them.

### **4.2.2 Stimulus/Response Sequences**

The student uploads the resumes and the alumni can give feedbacks and the companies can view the uploaded resume to know the quality of the student for future recruitment opportunities.

### **4.2.3 Functional Requirements**

- REQ-1: Limit file size to prevent overflow of storage capacity.
- REQ-2 : Store the uploaded file in the server for further use.

## **4.3 View Notifications**

### **4.3.1 Description and Priority**

Allows the students, companies and alumni to view notifications related to placement information.

### **4.3.2 Stimulus/Response Sequences**

Students can view notifications regarding placement proceedings, feedback from alumni and the company details. Companies can view notifications regarding the students applying and regarding the placement proceedings. Alumni can view notifications if a student wants to get feedback and contact them for further information.

### **4.3.3 Functional Requirements**

- REQ-1: A button to display notifications.
- REQ-2: User can delete notifications.
- REQ-3: Clicking notification takes the user to the relevant user's profile.

## **4.4 Giving Feedback**

### **4.4.1 Description and Priority**

Allows the alumni to send feedback to a student about the company they are working in.

#### **4.4.2 Stimulus/Response Sequences**

Students can request an alumni to provide feedback about the company. The Alumni receives a notification and gives the feedback to the student.

#### **4.4.3 Functional Requirements**

- REQ-1: The Student should be able to see the list of Alumni working in the company and send a request to that alumni.
- REQ-2: The Alumni should be able to see the notification of the request.
- REQ-3: The Student can further request for more information.

### **4.5 Verifying recruiting companies**

#### **4.5.1 Description and Priority**

Allows the Institute admin to verify if a recruiting company is genuine before notifying about opportunity.

#### **4.5.2 Stimulus/Response Sequences**

Institute admin can look at the company details, confirm that they are accepting it or rejecting it. If a company is genuine and is accepted, it is provided access to the features of the online portal.

#### **4.5.3 Functional Requirements**

- REQ-1: Company requests to join and provides genuine details.
- REQ-2: Institute admin verifies the details of the company.

### **4.6 Posting Recruitment Opportunities**

#### **4.6.1 Description and Priority**

The company can notify the administration and students regarding any suitable recruitment opportunities.

#### **4.6.2 Stimulus/Response Sequences**

Students can view the company and posting details. Interested students can apply for the post to get details and notifications regarding further proceedings.

#### **4.6.3 Functional Requirements**

- REQ-1: Company posts recruitment opportunity on the platform.

### **4.7 Applying for posts**

#### **4.7.1 Description and Priority**

Students can apply for a post and upload resume and other details required by the company.

#### **4.7.2 Stimulus/Response Sequences**

Companies can view the details of a student and contact them for further proceedings.

#### **4.7.3 Functional Requirements**

- REQ-1: Students have to fill all the necessary details required by the company.
- REQ-2: Students will get notified by the company regarding further proceedings.

## 5 Other Nonfunctional Requirements

### 5.1 Performance Requirements

- **Scalability** The portal should be able to handle an increasing amount of students as their number shall increase every year, without crashing. Database storage should be extensible physically.
- **Response Time** The portal has various search queries and listing features hence there is a need to efficiently handle the stored data so that there is a minimum delay in the queries.

### 5.2 Safety Requirements

The following safety requirements are necessary:

- Online data backup in case of server failure.
- The institute admin shall responsible verify companies which approach with recruitment opportunities to protect students from fraudulent mishaps.

### 5.3 Security Requirements

The portal exchanges many critical documents between the users hence there is a multitude of safety requirements:

- A secure Login and Password for the users
- A secured database system so that private information cannot be accessed by other people
- Different storage spaces for the users so there is no information exchanged between the users unwillingly

### 5.4 Software Quality Attributes

- **Availability:** The online portal will be available 24 hours a day, 7 days a week.
- **Reliability:** The software shall make sure that all operations such as posting recruitment opportunities and sending feedbacks are communicated correctly and reliably.

- **Maintainability:** Various components of the product should be easy to maintain. For development it should be easy to add new code to the system, modify the existing code or incorporate new features to the software.
- **Robustness:** The software shall be robust enough to have a high degree of fault tolerance. For example, the system should not crash if the user enters an invalid input. It should display a suitable error message.
- **Usability:**
  - Shall provide an easy to use graphical interface following standard web design principles used in other online platforms so that users can intuitively use the platform without needing a manual.
  - The interface should be interactive and easily navigable. Users should be able to understand the menu and other features of the software.
  - Any error message displayed by the software shall be polite and clear.

## 5.5 Business Rules

The software should not be outsourced to any third party without prior permission. Maintaining more than one account or fake account is illegal.



## 6 Other Requirements

- Permissions from IIT Kharagpur to host the portal.
- Securely store the data and backup server to prevent any server crashes.
- A server capable of handling heavy workload and queries.
- Licensing requirements: Applicable.

### 6.1 Appendix A: Glossary

- Python : Modern multi-purpose programming language
- Django : Django is a python framework for web development
- SQL : A Standard Database language
- IIT Kharagpur : Indian Institute of Technology Kharagpur is a premiere educational institute in India

## 6.2 Appendix B: Analysis Models

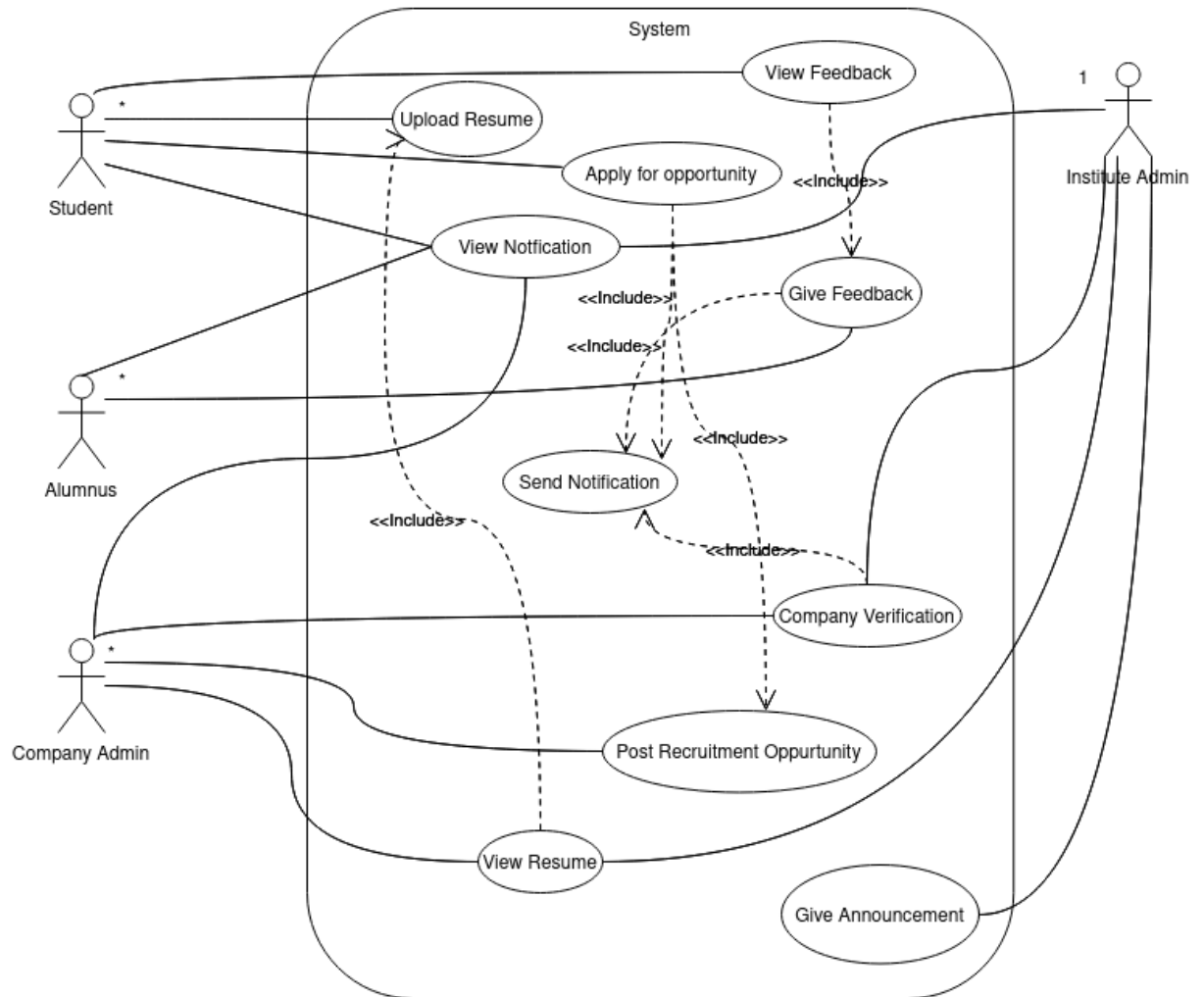


Figure 6.1: Use Case Diagram

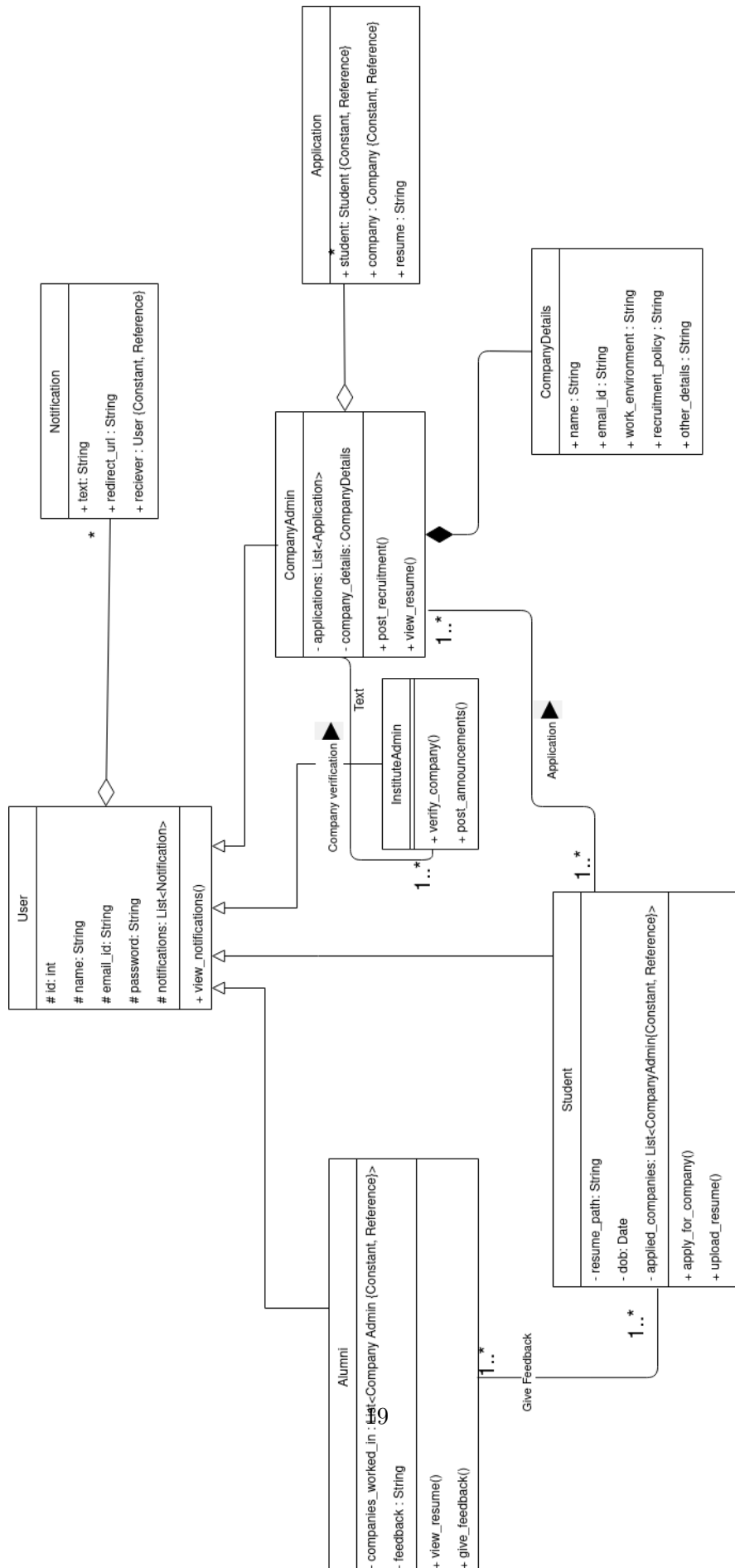


Figure 6.2: Class Diagram