**Software Requirements**

**Specification**

**for**

**Online Placement Information Gathering System**

**Version 1.0 approved**

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# Revision History

# Introduction

## Purpose

This Software Requirements Specification document describes all the functionalities supported by the software and limitations and constraints of the Online Placement Information Gathering System, developed for easing and digitalizing the entire placement process.

The project focuses on designing an Online Placement Information Gathering System for Institutes to enable companies to hire students based on their profiles and interests.

## Document Conventions

* The document is written in Times New Roman Font.
* Main headings (size 18) and sub-headings (size 14) are written in bold.
* The rest of the document is written out in font size 11.
* Prior knowledge about interpreting user case diagrams is preferable for better understanding.

## Intended Audience and Reading Suggestions

This document is intended for developers and admins at the Institute (as they would be having control over the central database). Students, alumni, and companies who are the primary users of the software would be mostly interacting with the frontend of the software.

This SRS contains the structure of the application as well as the software dependencies of the application, which must be present for the application to function smoothly. For reading this SRS, the reader should have a basic knowledge of Object-Oriented Programming, Web Development Frameworks (python framework Django is used), and Database Management. The reader must also have some prior knowledge about use case diagrams.

## Product Scope

* PMS software aims to felicitate the placement process right from providing students an option to register themselves to providing companies an option to accept or reject applicants.
* The software provides a one-to-one interaction facility between alumni and students so that the students can get useful suggestions from their seniors.
* Students should be able to enter their essential details and should also be able to view the details of companies partitioned based on their profiles. Features like CV uploading and applying in the desired company should also be provided by the software.
* Institute admins must have control over the details of students and companies registering and should be able to delete an entity in case of suspicion. Institute admin will have access to the central database.
* Companies should be able to register themselves by entering valid details and getting approval from the institute admin. Companies should also be able to see the necessary details of the applicant.

## References

Although the basic outline of the SRS was provided, another website referred to while the making of this document

<https://www.djangoproject.com/> (official Django documentation)

<https://www.lucidchart.com/pages/> (for use case diagrams)

<https://krazytech.com/projects>

# Overall Description

## Product Perspective

Good placements are a dream of all. Even before a student registers himself/herself in an institute, he/she aspires for ideal placement. The placement process also reflects an institution’s standard and quality. Thus, a hassle-free and systematic placement process is the target of every institute. Institutes spend a lump sum amount in maintaining a placement task force that coordinates the entire process. This process involves huge paperwork and human interference at several steps which can become cumbersome once the number of students increases.

This task force also has to arrange profiles of students according to various streams and notify them according to company requirements. If any modifications or updates are required in the profile of the students of the Company, it has to be searched and done manually.

Thus, the Online Placement Information Gathering System would replace the task of the task force and provide all these functionalities using a user-friendly interface.

## Product Functions

The web portal provides the given functionalities:

1. Multiple Logins- The web portal allows login by four different entities. Students, Company Admin, Institute Admin, and Alumni can log in to the software and access the functionalities required by them.
2. Upload Resume-Students can upload their resume and these resumes can be viewed by the company to identify the quality of students in the institute and to shortlist them for selection.
3. Notifications- Institute Admin can release various notifications regarding the placement proceedings. These notifications can be viewed by the student after logging in to the software. Students will also get notified about the suitable opportunities for them through the software.
4. Alumni Feedback-Alumni can log in to the web portal and give reviews about the various resumes uploaded in the software. This feedback will be visible to the student on the software.
5. Notification to the institute admin- This software will inform the institute admin about the various companies trying to reach out to them.
6. Verification of Companies- The companies applying for recruiting students will then be verified by the institute admin and if they are genuine their name will be on the list of prospective companies hiring students.

## User Classes and Characteristics

 The Online Placement Information Gathering System has 4 types of users:

a. Institute Admin: Institute Admin can do the following: -

- Get notified about the companies that are trying to contact the college for placement

- Verifies the recruiter and checks whether they are genuine or not

- Releases notifications for the students regarding the placement proceedings

1. Company Admin: Company Admin can do the following: -

- Enter the company details

- View resumes of different students

1. Student: Student can do the following: -

- Upload multiple resumes according to job profiles

- Can view feedback from alumni and interact with them later

- Can view company details

- Can read various notifications released by institute admin related to placement proceedings

- Get to know about suitable recruitment opportunities for them

1. Alumni: Alumni can do the following: -

- Can give feedback to students by analyzing their CVs and profile.

- Interact with interested students

## Operating Environment

## The software can be used by any user with access to a device with internet. The Placement Portal will have a server from where it will retrieve all the information and the database will be maintained at the server.

## The software can run on any modern device which can load a modern web browser and has a reliable internet connection.

## Design and Implementation Constraints

## For now, one company can offer jobs in only one Profile, this is done to simplify the classification process of different companies, used for filtering the search results and other user-friendly features.

## The institute admin is expected to maintain the software and database.

## User Documentation

## All user documentation, including basic tutorials, would be made available via the README of the repository. The same information would also be available on the deployed application.

## Assumptions and Dependencies

## Assumptions:

## Institute Admin will have access to the central database.

## Only Institute admin can delete an entity.

## At the start of a placement season, the Institute Admin has to provide a list of all the students and their email IDs and Roll number used for verification purposes.

## Dependencies:

## Django: Backend Framework (Version 3.1.13)

## Django-widget-tweaks: Version 1.4.8

## Pytz: Version 2020.1

## Sqlite3: Database

## HTML5, CSS, Bootstrap, JavaScript, jQuery: Frontend

## 

# External Interface Requirements

## 3.1 User Interfaces

**Institute Admin Interface:** After the login of Institute Admin, a Portal will be displayed through which one can,

* View the list of all Students, Companies, and Alumni.
* Approve the new Companies, trying to offer jobs for the institute’s students.
* Post important notices on the Notification Panel, which is visible to all Students.
* Add and delete a student, alumni, or company in case of misconduct.

**Student Interface:** After the login of a Student, a Portal will be displayed through which one can,

* View the list of all available Companies.
* Upload Multiple CVs, one each for different Placement Profiles.
* Get feedback on the CVs and profiles, from the Alumni.
* Apply for Companies by selecting one CV, from the list of uploaded CVs.
* View the notification panel for the latest updates.

**Company Admin Interface:** After the login of Company Admin, a Portal will be displayed through which one can,

* View the details of the students that have applied for a Job in the Company.
* Shortlist Students based on CVs and get the contact details of the shortlisted students for further rounds of the Placement Procedure.

**Alumni Interface:** After the login of Alumni, a Portal will be displayed through which one can,

* View the details of all the students that are sitting in the Placement Procedure.
* Can give feedback to individual students on their CVs and how to improve the chances of their shortlisting.
* After the feedback, have a direct one-to-one conversation with that student on the portal itself.

## 3.2 Hardware Interfaces

Since the software is a web application, it only requires a basic hardware interface such as a laptop, mobile, or computer where the user can run the software.

## 3.3 Software Interfaces

## 5 databases would be maintained:

## Student database: This database would contain essential information of all students. Their name, roll number, list of CVs uploaded, list of profiles chosen and other basic personal information’s will be stored here.

## Alumni database: This database would contain basic details of alumni such as name and roll number.

## Company database: This database would contain all information about companies registered. Companies’ name, profiles supported, description would be stored here.

## Chats database: This database is maintained to store the feedback given by an alumnus to student. This would contain alumni roll number, alumni name, student roll number, student name, and feedback given.

## Notification database: this database would enable institute admin to post notification that would be displayed on students’ page.

## 3.4 Communications Interfaces

* User - Front End: The user can access the front-end UI through a modern web browser.
* Front End - Back End: This communication happens via the Django framework.
* Back End - Database: The backend communicates with the database with the help of the Django framework.
* Student – Alumni: Students and alumni can interact with each other

# System Features

The system is broadly divided into 4 categories namely:

* Institute admin
* Student
* Alumni
* Company admin

Individual features of the above categories are listed below:

## Institute Admin:

## Add, delete or modify Student’s, Company’s, and Alumni’s accounts: Institute admin being the superuser will have the ability to add, delete or modify registered account details as per requirement.

## View and monitor the central database.

## Post notifications: Institute admin should be able to post notifications regarding upcoming events and other necessary information. These notifications would be displayed on the student’s page.

* 1. **Student:**
* Sign in: the student would be able to enter their essential details and register themselves into the portal
* Log in: a student should be able to log in to their respective profile page after a successful registration
* Upload CV: students would have the facility to upload multiple CVs on the portal which can be uploaded when a student applies for a company.
* **Sign up and CV upload:**

The student would be able to enter their essential details and register themselves into the portal and Upload their CV onto the portal for participating in the placement process.

**Response Sequence:-**

* 1. The student will open the portal and go to the Sign Up section and register themselves as a student by filling up essential information.
  2. After successful verification, the student will be asked to upload one CV mandatorily.
  3. Once the CV upload is done, the student will be redirected to the Login Portal to login and move to Student dashboard.
  4. In the student dashboard, there will be an option to upload multiple CVs, one for each available profile.
  5. Student can also edit the profiles they want to apply for in the placement process.
* View feedback: students would be able to view feedback given by the alumni.
* View company: students would be able to view details of companies (depending upon their preferences of profiles) and apply to the interested company.
* Edit profile, add a CV, and add interesting profiles: students would be able to edit basic details of their profiles, add CVs and choose interesting profiles from a list of profiles given.
* **Apply for Companies:**

Students would be able to view a list of all companies participating in the recruitment process and can apply for companies from the portal.

**Response Sequence:-**

* 1. There will be a dedicated section for applying to companies on the student portal.
  2. The student would be able to see a list of all companies and can see the details and description of a specific company by clicking on the Company name which will take the student to a dedicated page of that company. There will be dedicated page for the details of each company.
  3. The student can then apply for a company, by selecting a CV from the list of all the CVs uploaded on the portal.
* View notifications: students would also be able to view notifications posted by the institute admin.
* **View Notifications and Feedback:**

Students will be able to view the current Notifications and the reply of the requested feedback from the alumnus.

**Response Sequence:-**

* 1. On the student dashboard, there will be a Notification Panel, which will show the latest Notifications from the Institute Admin.
  2. The student will be able to see a list of alumni and can request feedback from a particular alumnus from the list.
  3. The student can also see the feedback received from the alumnus and can reply to the alumnus for further conversation on the portal.

**4.3 Alumni:**

The Alumni Portal will have the following features: -

* Login and Register on the portal, by giving their basic details.
* Give Feedback: The alumni can give feedback to the student’s CV and how to improve their CV for better chances of shortlisting.
* The alumni can give feedback to multiple students.

Response Sequence:

A) The Alumni is able to register on the website by giving out their details.

B) Then the alumni can give feedbacks to students who have requested for feedback.

C) Alumni then may also interact with students who are interested in interacting with the alumni further.

**4.4 Company Admin:**

* The company can Sign up and fill in their description (Job Description, Work Environment, Company Background, etc.) and apply for approval from institute Admin, to participate in the recruitment process.

**Response Sequence:-**

1. The company admin will visit the portal and sign up themself as a company after filling necessary details about the company and about the job role for which they are hiring.

2. Institute Admin will then get a request then to verify this company.

3. After successful verification of the company they can log in to the website.

* The company can see a list of students that have applied for their offered jobs.
* The company can view/download the CVs of these students.
* The company can shortlist students based on their CVs for further rounds of the Placement Process.
* Finally, the companies can also edit their description details to attract more students.

**Response Sequence:**

1. After logging in they can view the different list of students that have applied for a job role in the company.
2. Company Admin can then download the CVs of different students that have applied for a job role.
3. Company will then shortlist students after viewing their CVs for further rounds of placements according to company's needs.
4. The company may also change their description for which they are hiring on the portal according to their needs.

# Other Nonfunctional Requirements

## Performance Requirements

## 1. Online Placement Gathering System is a web-based application and can work on a decent internet connection.

## 2. This can work on operating systems such as Windows, Linux, or Mac.

## 3. The system should be able to process requests to the database and perform computations for better performance.

## 4. One of the recent versions of the browser would suffice for running this web-based application.

## Safety Requirements

Following solutions have been implemented to counter internet-based threats that exist: -

**5.3 Security Requirements**

For the security of the software, we have implemented: -

A) Password based logins for all the users and all the passwords are secured by hashing before storing them in database.

B) A CSRF token has been used in the server, which is send to the client side, and mandating the client to send the token back in the request header. The server will then verify if the token from client is the same as the one generated previously; if not it will not authorize the request.

## 5.4 Software Quality Attributes

A) Object Oriented Design principles has been implemented to change the software in future according to our future requirements

B) The software can be used on any device using a browser.

C) Extensive testing of the software will be done and there will be minimal bugs and errors.

# Other Requirements

# GUI should be effective, interactive and intuitive to increase user experience. The total application should be made as sleek as possible to decrease loading time and to improve user experience.