

# **Software Requirements Specification**

**for**

# **Campus Recruitment System**

**Version 1.0**

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## **1. Introduction**

### **1.1. Purpose**

The primary purpose to develop this Campus Recruitment System is to optimize the recruitment process for colleges and universities. Besides, the qualified applicants could be sorted by this system based on their qualifications, skills and company requirements. Based on the applicant's skills and areas of expertise, the company suitable or the company in which he/she is going to be placed can be predicted. The main aim of this project is to facilitate the college student and the companies to get registered and get communicated with the placement cell.

### **1.2. Intended Audience**

The document is meant for the students of the college, the company and the admin will operate the system. This document will serve as a reference document for the Project management and Development team who will analyze, Design and Implement this system. They will coordinate every activity that takes place in the software engineering process and will be guided by Prof. Vijaya.

### **1.3. Project Scope**

Campus Recruitment System enables the user to have the typical recruitment facilities and features at their disposal. It resolves the typical issue of manual staffing processes and activities into a controlled and closely monitored workflow in the architecture of the application. The objective of this application is to serve as a common meeting ground for job seekers and company, locally. This kind of system is specifically designed for an organization to help in solving staffing problems and managing human resource department activities at a higher degree of optimization.

### **1.4. Operating Environment**

The campus recruitment system shall be deployed on any smartphone like Vivo- v12, oppo-F3, moto-G5-Plus and server running on android the Operating System. SQLite Database shall be used to maintain the databases. The system can be accessed & downloaded from Google Play Store. It can run without Wi-Fi even for now.

The system will be built with the help of the following software:

S.No	System	Development Environment	Description
1	Campus Recruitment System	IDE (Android Studio)	Android Studio is Android's official IDE. It is purpose-built for Android to accelerate your development and help you build the highest-quality apps for every Android device.
2	Campus Recruitment System	Database (SQLite)	SQLite in android will be used for saving data to a database is ideal for repeating or structured data, such as contact information. We used SQLite in the development & coding part for storing databases. We used SQLite in the Integration and testing part if during testing software fails or more databases are added.
3	Campus Recruitment System	Java(Programming Environment)	Java is an object-oriented, platform-independent, simple, secure, robust, portable, high performance, distributed, dynamic programming language originally developed by Sun Microsystems and released in 1995.

## **1.5. Design and Implementation Constraints**

The following Design and Implementation Constraints are applicable for the Campus Recruitment System:

1. The system is designed to be cross-platform supportable. The system is supported on a wide range of hardware and any android platform which is having any version of android built into the system. This application is being developed using android studio, hence it is extremely portable.
2. To prevent multiple students of the same speciality to log-in onto the same company portal. Request, a workflow system needs to be designed which routes the company vacancy Requests to students.
3. The system is expected to store a maximum of 64GB of data.
4. Initially, the system will be available on the android system with versions greater than 5.1. Then the system will be available for even ios mobiles and even on PCs and Laptops.
5. To assist students for selecting a company and preparing for an interview for that company, a machine learning algorithm will be designed and trained on a training data-set to predict which skills will be required for students and also if the student is eligible for company, this algorithm will continue to be trained on previously recorded data sets of students to improve the quality of predictions.
6. The database shall be maintained by an admin and who have not logged in for the last 1 year would get archived onto a parallel database. Restoring student data is beyond the scope of the project and would need to be managed by the admin.
7. As the system is supposed to be used by students and companies as well, care needs to be taken from a usability perspective in terms of font sizes and ease of system usage.
8. Also, UI is made with particular animations so that companies can find it good for uploading jobs and interacting with students. Even more and more companies and students use this app as the aim.

## 2. System Features

The end-user having the app installed on their mobile should be able to login using the valid credentials. Post validation of the credentials entered, the system allows access into the database. Upon access, the user should be able to perform operations like updating their profile information, job searching, job applying and viewing job status, company people will manage job and internship offers, an admin will control the student, company's data and all records into the database.

### 2.1 System Features

The College Recruitment System maintains details about Students, Companies, Jobs and Admins. This section describes the associated Functional requirements in the table below based on priorities

#	Title of System Feature	Description	Priority	Functional Requirements
1	Login	This is used to login and maintain security by authenticating users.	High 9	<b>Login feature:</b> <ul style="list-style-type: none"> <li>• Should accept the username password.</li> <li>• A case the insensitive comparison is done for a user name and a case the sensitive comparison is done for a password</li> <li>• If an invalid user id or password is entered then the system should display the error message "Login Denied" and should quit the application.</li> <li>• Student, Company, Admin has a different login interface.</li> <li>• Each user must check their domain before login. If any user tries to login into other domain with their credential an error messages displays.</li> <li>• If the correct user id and password are supplied then, Profile Menu should be displayed.</li> </ul>

			High 8	<b>Forgot:</b> <ul style="list-style-type: none"> <li>• Mail id or a phone number will be taken along with user id.</li> <li>• Should check whether the user id has an account with the mail or phone number provided. If not display the error message "Invalid Details".</li> <li>• Once password reset is done the control must return to the login page of a specific domain.</li> </ul>
2	Register	This is used to register the new users like Companies, Students	High 9	<b>Register:</b> <ul style="list-style-type: none"> <li>• Mail id, name, a phone number will be taken.</li> <li>• Should check whether the user has an account already with the mail provided. If not take the registration number as user id and password.</li> <li>• After a user gets registered successfully the control must return to the login page of their specific domain.</li> </ul>
3	Profile	This feature is mainly for the students, admin, company to add their information.	High 7	<b>Profile Details:</b> <ul style="list-style-type: none"> <li>• Uploading photograph, resume</li> <li>• Details taken at the time of signup will be included.</li> <li>• Additional phone number and email id can be added</li> <li>• Accepts the department name and graduating year from the given list.</li> <li>• Cgpa is also taken.</li> <li>• It will take the interests, skills ,languages known.</li> </ul>

4	Updating Profile	This feature is mainly for the students, admin, company to update ,view and delete their information.	Medium 6	<b>Updating Profile Details:</b> <ul style="list-style-type: none"> <li>● Accept the new resume and name.</li> <li>● It will take the phone number, mail id.</li> <li>● Updates can be done department, graduating year and cgpa.</li> <li>● Editing the Interests and skills can also be done.</li> </ul> <b>View Profile :</b> <p>Display all the details along with the photograph in simple format.</p>
5	Job	This feature is especially for students to apply for jobs.	High 7	<b>Apply for Jobs</b> <ul style="list-style-type: none"> <li>● A set of lists of jobs and Internships are provided by companies and shown in order according to the uploaded date.</li> <li>● Job Role, Company name, End date will be displayed.</li> <li>● After clicking the job Full details about the job will be provided at the description.</li> <li>● Salary range, experience, Eligibility factors, Required skills will be displayed.</li> <li>● Down below there will be an option called APPLY then that offer will be moved to Job status.</li> </ul>
6	Job Searching	This feature is especially for students to search for jobs	Low 6	<b>Search Jobs</b> <ul style="list-style-type: none"> <li>● Here a Search box will be provided and job roles are only taken for searching, after search jobs and internships will be displayed.</li> </ul>



7	Job Status	This feature is especially for students to check the status of the application he applied for.	Medium 6	<b>Job Status</b> <ul style="list-style-type: none"> <li>Applied Jobs and Internships will be displayed here.</li> <li>There is a button display the</li> <li>Status like “applied”, “viewed”, “hired”, “rejected”.</li> <li>If eligible further details will be shared with their mail ids.</li> </ul>
8	Student Management	Admin plays a major Role here and manages students .	Medium 7	<b>Add Student:</b> <ul style="list-style-type: none"> <li>The Student ids should be unique. The Student id should be 5 digits long.</li> <li>Student Id must contain only numbers.</li> <li>Can't accept the account without filing mandatory details. If the details are empty in those fields a message is displayed that the specific field is mandatory.</li> <li>Accept the name of the Student not exceeding 25 characters and it should contain a minimum 3 characters. The Student name can contain only alphabets (upper case and lower case), blank space. The first character must be an upper case alphabet.</li> <li>When an invalid name is entered, display an error message and ask the user to re-enter the name.</li> <li>When the admin finishes adding a new Student, the control should return to the “Student Management Menu Screen” after displaying a message “Student Successfully Added”.</li> </ul>

				<p><b>Modify or Update Student details:</b></p> <ul style="list-style-type: none"> <li>• Should Not accept if the student table is empty. It displays an error message "Table is empty" and returns to the Student Management menu.</li> <li>• If the table is not empty should accept all the updated details</li> <li>• Accept the updated name of the Student not exceeding 25 characters and it should contain a minimum 3 characters. The Student name can contain only alphabets (upper case and lower case), blank space. The first character must be an upper case alphabet.</li> <li>• Email id, phno must be valid for updation.</li> <li>• Department must be selected from the displayed list of departments. If the user department name is not displayed can register for other specifying the department name he/she belongs.</li> <li>• Accept updates without entering an address.</li> <li>• After updating, control must return to the Student Management menu.</li> </ul>
				<p><b>Delete Student:</b></p> <ul style="list-style-type: none"> <li>• Should Not accept if the student table is empty. It displays an error message "Table is empty" and returns to the Student Management menu.</li> <li>• If the table is not empty should accept for deletion.</li> <li>• User id, Username, Department, Batch details are mandatory. If such a user exists in the</li> </ul>

				<p>database and if the admin clicks the "Delete" button should ask for confirmation and delete the user account.</p> <ul style="list-style-type: none"> <li>• After deleting an existing user Control must return to the Student Management Menu.</li> </ul>
9	Company Management	Admin plays a major Role here managing companies.	Medium 7	<p><b>Add Company:</b></p> <ul style="list-style-type: none"> <li>• The Company ids should be unique. The Company id should be 4 digits long.</li> <li>• Company Id must contain only numbers.</li> <li>• Can't accept the account without filling mandatory details. If the details are empty a message is displayed that field is mandatory.</li> <li>• Accept the name of the Company not exceeding 25 characters and it should contain a minimum 3 characters. The Company name can contain only alphabets (upper case and lower case). The first character must be an upper case alphabet.</li> <li>• When an invalid name is entered, display an error message and ask the user to re-enter the name.</li> <li>• Admin sets a dummy password during registration.</li> <li>• When the admin finishes adding a new Company, the control should return to the "Company Management Menu Screen" after displaying a message "Company successfully Added".</li> </ul>
				<p><b>Modify or Update Company details:</b></p> <ul style="list-style-type: none"> <li>• Should Not accept if the company table is empty. It displays an error message</li> </ul>

				<p>“Table is empty” and returns to the Company Management menu.</p> <ul style="list-style-type: none"> <li>• If the table is not empty should accept all the changes.</li> <li>• If the companyname to be updated the updated name of the Company should not exceed 25 characters and it should contain a minimum 3 characters. The company name can contain only alphabets (upper case and lower case), blank space. The first character must be an upper case alphabet.</li> <li>• CompanyType must be selected from the displayed list of types if it doesn't fall under any category and must select others and provide their specific company type.</li> <li>• Email id, phno must be valid for updation.</li> <li>• Accept updates without entering an address field.</li> <li>• After updating, control must return to the company Management menu.</li> </ul>
				<p><b>Delete Company:</b></p> <ul style="list-style-type: none"> <li>• Should Not accept if the company table is empty. It displays an error message “Table is empty” and returns to the Company Management menu.</li> <li>• If the table is not empty should accept for deletion.</li> <li>• Copanyid, Companyname, company rank are mandatory fields. If such a user exists in the database and if the admin clicks the “Delete” button should ask for confirmation and delete the</li> </ul>

				user account. After a successful deletion Control must return to the Company Management Menu.
10	View Applications	This feature is for companies to view job applications of students and changes the status of applicants	Medium 7	<b>View Applications</b> <ul style="list-style-type: none"> <li>Applied Jobs and Internships for the company will be displayed here.</li> <li>Company checks the eligibility criteria through their resume of varied range of skills, projects undertaken, CGPA, graduation year etc.</li> <li>If eligible the status of students is changed to "Hired" and further details will be shared with their mail ids.</li> <li>If not eligible the status is marked as "Rejected" and will give suggestions to improve profile and skills.</li> <li>After successful change of student status the control returns to view applications.</li> </ul>

### 3. External Interface Requirements :

#### 3.1 User Interfaces :

##### Signup Interface :

This user interface allows the user to get registered by asking details like Fullname, userid, username, email, contact no, password etc, one can login into the system only once signed up, so that only authorized users can log in to the system.

**Login Interface :**

This user interface prompts the user to authenticate his/her credentials by asking username and password, so that only authorized users can log in to the system. Also it displays error messages and exits if the given credentials are wrong. And has an option called forgot password, if the user forgot his/her credentials. This login interface exists in 3 ways.

- 1. ADMIN LOGIN**
- 2. STUDENT LOGIN**
- 3. COMPANY LOGIN**

Once the user gets logged in the control goes to their corresponding portals

- **ADMIN PORTAL :** This interface has these following :

HOME : This shows the existing details of the admin.

MANAGE STUDENT : This shows the details of registered students.

MANAGE COMPANY : This shows the details of registered companies.

UPDATE DETAILS: This allows the admin to update his/her details.

CHANGE PASSWORD : This allows the admin to change passwords.

- **STUDENT PORTAL :** This interface has these following :

HOME : This shows the existing details of the student.

APPLY FOR JOBS: This allows students to apply for their required jobs.

VIEW JOB STATUS : This allows students to view their job status, whether they are hired or not.

SEARCH JOBS: This allows students to search for jobs.

UPDATE DETAILS : This allows the students to update his/her details.

CHANGE PASSWORD : This allows the students to change their passwords.

- **COMPANY PORTAL :** This interface has these following :

HOME : This shows the existing details of the company.

POST JOBS : This allows companies to post jobs for students.

VIEW STUDENT APPLICATION : This allows companies to decide whether to hire/not a student based upon his/her application.

UPDATE DETAILS : This allows the company to update his/her details.

CHANGE PASSWORD : This allows the companies to change their passwords.

### 3.2 Hardware Interfaces :

This software does not require any direct hardware interfaces.

### 3.3 Software Interfaces :

<i>Operating System</i>	<i>Any Android Mobile Phones</i>
<i>Programming language</i>	<i>Java</i>
<i>IDE</i>	<i>Android Studio</i>
<i>Database</i>	<i>Inbuilt</i>

### 3.4 Communication Interfaces

Generally this project doesn't require any communication interfaces because this software is a standalone system .This is useful for Student, Admin and Company communication purposes.

## 4.Other Nonfunctional Requirements

### 4.1 Performance Requirements:

1. The completely separate business logic at the 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

## **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.
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 requires 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. References**

1. Software Engineering A practitioner's approach, seventh edition, by Roger S.Pressman,Ph.d.
2. <https://developer.android.com/reference>
3. Non Functional requirements, examples,types, how to approach, by altexsoft.com