Software Requirements Specification (SRS)

TPO & Student Placement Management Portal

1.INTRODUCTION

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) is to fully define the requirements for the Placement Management Portal used by students and Training & Placement Officers (TPOs). The document specifies features, functional requirements, non-functional requirements, system architecture, class relations, and constraints.

1.2 Scope

The system contains two portals:
1. TPO/Admin Portal (Branch-specific)
2. Student Portal (Branch Students)

Main features include:

- Student registration and profile management
- Resume upload, review, and feedback
- Company and drive creation
- Student eligibility engine
- Application tracking
- Placement result publishing
- Notifications (public/private)

1.3 Definitions

TPO: Training & Placement Officer
Drive: Company recruitment event
Resume Feedback: Formal comments on student resume
Hall of Fame: Final placed student list

2. OVERALL DESCRIPTION

2.1 Product Perspective

The system is a full-stack web application with a central database storing users, companies, drives, applications, resumes, and notifications.

2.2 Product Functions

TPO/Admin Functions:
- Manage students & resumes
- Create and manage job drives
- Shortlist students
- Issue notifications
- Publish results

Student Functions:
- Profile management
- Resume upload
- Apply to drives
- Track application status
- Receive notifications
- View placement results

2.3 User Characteristics

TPO Users: Moderate technical knowledge
Students: Basic portal usage skills

2.4 Constraints

- One TPO per branch
- Resume must be PDF
- Placed students cannot apply for new drives

2.5 Assumptions

- Students use valid college email
- Admin rights given only to TPO

3. SYSTEM FEATURES (FUNCTIONAL REQUIREMENTS)

3.1 TPO/Admin Features

3.1.1 Dashboard

FR-01 Dashboard shall show branch statistics
FR-02 Show pending resumes and new users

3.1.2 Student Management

FR-03 View/filter/search students

FR-04 Delete duplicate or invalid accounts

FR-05 View student activity log

3.1.3 Resume Review

FR-06 TPO shall view resumes

FR-07 TPO may provide resume feedback

FR-08 Feedback visible to students

3.1.4 Company & Drive Management

FR-09 Add/edit companies

FR-10 Create job drives

FR-11 Define eligibility rules

FR-12 Update hiring rounds

3.1.5 Applications & Shortlisting

FR-13 View drive-wise applications

FR-14 Shortlist students

FR-15 Export applications PDF/Excel

3.1.6 Notifications & Results

FR-16 Send public notifications

FR-17 Send private/filtered notifications

FR-18 Send company-specific updates

FR-19 Publish final results

3.1.7 Placement Results

FR-20 Mark student as placed

FR-21 Hide placed students from new drives

FR-22 Auto restrict placed users

FR-23 Export placed students PDF

3.1.8 Company Review

FR-24 Add internal company notes

FR-25 Record student performance

3.1.9 Reports & Analytics

FR-26 Generate placement analytics

FR-27 Generate drive participation

FR-28 Export analytics

3.1.10 System Settings

FR-29 Update profile

FR-30 Manage OTP/email templates

FR-31 Configure portal settings

3.2 STUDENT FEATURES

3.2.1 Dashboard
FR-32 Show resume status and notifications
FR-33 Show reminders and applied jobs

3.2.2 Profile & Resume
FR-34 Update personal profile
FR-35 Upload resume (PDF only)
FR-36 View TPO feedback
FR-37 Verify email/mobile

3.2.3 Notifications
FR-38 View all public/private notifications

3.2.4 Job Drives & Eligibility
FR-39 Display all drives
FR-40 System shall auto-check eligibility (Green/Red)

3.2.5 Application Tracker
FR-41 Track application status
(Pending → Shortlisted → Selected/Rejected)

3.2.6 Placement Hall of Fame
FR-42 Show placed students
FR-43 Download Hall of Fame PDF

FR-44 Show TPO contact info
FR-45 Show office hours

4. NON-FUNCTIONAL REQUIREMENTS

4.1 Security
- OTP-based verification mandatory
- Role-based access control

4.2 Reliability
- 99% uptime guarantee
- Daily database backups

4.3 Maintainability
- Modular backend services
- Scalable design for multiple years

5. DATABASE & CLASS REQUIREMENTS

5.1 Major Entities
User
TPO
Student
Branch
Resume
ResumeFeedback
Company
JobDrive
Application
Notification
PlacementResult
CompanyReview

5.2 Entity Relationships
- Branch 1:1 TPO
- Branch 1:N Students

- Student 1:1 Resume
- Student 1:N Applications
- Company 1:N JobDrives
- JobDrive 1:N Applications
- Notification N:M Students
- Student 1:1 Placement
- Resume 1:N Feedback

6. EXTERNAL INTERFACE REQUIREMENTS

6.1 UI Requirements
- Sidebar navigation
- Dashboard cards
- Notification center
- Resume viewer

6.2 Hardware/Software Interfaces
- Web browser
- Email/SMS OTP service

7. SYSTEM ARCHITECTURE

Layers:
1. Frontend (HTML/CSS/JavaScript/React.js)
2. Backend (Hibernate/Spring Boot)
3. Database (MySQL)
4. Authentication (JWT)