Software Requirements Specification

for

Campus Placement Portal

Version 1.0 approved

Prepared by

21CSB0A12 - Ch. Amarindraa Sai

21CSB0A16 - E. Pranay Suhas

21CSB0A17 - G. Sai Kamal

21CSB0A39 - N. Bhuvanesh

NIT-Warangal

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
			1.0

1. Introduction

1.1 Purpose

This document serves as the Software Requirements Specification (SRS) for the Campus Placement Portal project. Its purpose is to outline the functional and non-functional requirements for the development of a comprehensive web and app application. The system will act as an interface between students and the placement team, providing real-time updates on placement statistics, company tests, interviews, notifications, event scheduling, and access to past experiences and previous year questions. The ultimate goal is to streamline the campus placement process, enhance user interaction, and improve overall user experience.

1.2 Document Conventions

This Document was created based on the IEEE template for System Requirement Specification Documents.

1.3 Intended Audience and Reading Suggestions

The intended audience for this document includes developers, project managers, UI/UX designers, marketing staff, testers, and documentation writers. Developers should focus on the technical specifications, project managers on overall functionality, UI/UX designers on interface details, marketing staff on user engagement features, and users on the user experience. It is recommended to start with the overview sections and proceed to the detailed sections relevant to each role.

1.4 Product Scope

The software being specified is a robust and interactive Campus Placement Portal application. It acts as a central hub for students and the placement team to effectively manage the campus recruitment process. The platform provides features like real-time updates, event scheduling, access to past experiences, and previous year questions to empower students in their job placement journey. Additionally, it facilitates efficient communication and coordination between students and the placement team.

1.5 References

1. Unstop : https://unstop.com/
2. Linkedin : https://www.linkedin.com/

2. Overall Description

2.1 Product Perspective

The Campus Placement Portal is developed to act as a comprehensive interface between students and the placement team, facilitating real-time updates on placement statistics, company tests, interviews, notifications, event scheduling, and access to past experiences and previous year questions. The system aims to streamline the campus recruitment process and enhance user interaction for an efficient and productive placement experience.

2.2 Product Functions

The system encompasses the following core functions:

User Authentication: The system should allow a user to log in.

Search Functionality: The system should allow a user to search for relevant placement-related information.

View Event Details: The system should allow a user to view details about upcoming tests, interviews, and events.

Notification System: The system should provide notifications to users about updates regarding tests, interviews, and events.

2.3 User Classes and Characteristics

There will be two primary user classes for the system:

Students and Placement Seekers: Users who will utilise the platform to access placement-related information, apply for jobs, and interact with the placement team.

Placement Team: System developers and administrators responsible for managing the platform, updating information, and coordinating placement activities.

2.4 Operating Environment

The Campus Placement Portal can be accessed on various devices and operating systems, including:

PC or Laptops: Windows 7, 8, 8.1, 10
Mac OS X
Linux

Mobile Devices: Android (Smartphones, Tablets)
iOS (iPhone, iPad)

2.5 Design and Implementation Constraints

Server Capacity: The system's server should be capable of handling a substantial number of users to prevent network congestion during peak usage times.

Firewall Considerations: Personal firewalls should not significantly impact network traffic or system performance. The server's firewall should not conflict with the user system's firewall.

2.6 User Documentation

The Campus Placement Portal will provide intuitive user documentation, making it easy for users to navigate and utilise the platform.

Users will log in using their credentials, access relevant information, apply for job opportunities, and interact with the placement team.

2.7 Assumptions and Dependencies

Front-end Development: The front end of the application will be developed using appropriate technologies, ensuring compatibility across Android and iOS devices.

External Libraries and Databases: The system will rely on suitable libraries for font rendering and integrate with the database for storing and accessing past experiences and previous year questions.

Back-end Framework: Django, a high-level Python web framework, will be used for efficient back-end development, promoting rapid development and pragmatic design.

3. External Interface Requirements

3.1 User Interfaces

The Campus Placement Portal will have both web and app interfaces to interact with users.

Web Interface

The web interface will feature a clean and intuitive design, following modern UI/UX principles.

Sample screen images and wireframes will be provided in a separate User Interface Specification document.

The layout will conform to responsive design standards for optimal viewing on various devices.

Standard buttons for actions like login, register, submit, etc., will be consistent across all pages.

Keyboard shortcuts will not be a primary consideration due to the nature of web usage.

App Interface

The app interface will maintain a consistent look and feel, ensuring a seamless user experience.

Sample screen images and wireframes will be detailed in a separate User Interface Specification document.

Common UI elements will be standard across platforms to maintain a cohesive brand identity.

3.2 Hardware Interfaces

The Campus Placement Portal will interact with standard hardware components typically used in web and mobile devices.

Supported Device Types:

Web browsers (desktop and mobile)

Android and iOS devices

Nature of Data and Control Interactions:

Data transfer between the software and hardware components will utilise standard protocols over HTTP/HTTPS.

3.3 Software Interfaces

The Campus Placement Portal will interact with various software components and services.

Database:

The application will interact with a relational database management system (e.g., MySQL, PostgreSQL) to store and retrieve data related to users, companies, events, etc.
Operating Systems:

The system will be compatible with major operating systems (e.g., Windows, MacOS, Android, iOS).
Libraries and Frameworks:

Front-end frameworks like React and Angular will be used for web interfaces.
Back-end will be implemented using Node.js and associated frameworks.
APIs:

External APIs may be used for additional functionalities (e.g., authentication via OAuth).

3.4 Communications Interfaces

The Campus Placement Portal will require various communication functions to ensure seamless operation.

Communication Protocols:

The system will utilise HTTP/HTTPS for communication between clients and the server.

Communication Security:

HTTPS will be used to encrypt communications, ensuring data security.

4. System Features

4.1 User Authentication

4.1.1 Description and Priority

This feature enables users to log into the system using their credentials. It is of high priority as secure access to the system is fundamental.

4.1.2 Stimulus/Response Sequences

Stimulus: User clicks on the login button.

Response: System displays the login form.

Stimulus: User enters their credentials and submits.

Response: System validates the credentials and grants access to the user.

4.1.3 Functional Requirements

REQ-1: The system shall provide a secure login page to authenticate users.

REQ-2: The system shall validate user credentials against stored data in the database.

REQ-3: Upon successful login, the system shall redirect the user to their personalised dashboard.

4.2 Search Functionality

4.2.1 Description and Priority

This feature allows users to search for relevant placement-related information efficiently. It is of medium priority as it enhances user experience and information accessibility.

4.2.2 Stimulus/Response Sequences

Stimulus: User enters a search query in the search bar.

Response: System displays relevant search results.

4.2.3 Functional Requirements

REQ-4: The system shall provide a search bar on relevant pages for users to enter search queries.

REQ-5: The system shall perform a search across relevant data (e.g., event details, past experiences, questions) and display matching results.

4.3 View Event Details

4.3.1 Description and Priority

This feature allows users to view comprehensive details about upcoming tests, interviews, and events. It is of high priority as it assists users in preparing for placement activities.

4.3.2 Stimulus/Response Sequences

Stimulus: User clicks on a specific event or test.

Response: System displays detailed information about the selected event.

4.1.3 Functional Requirements

REQ-6: The system shall display a list of upcoming tests, interviews, and events on the user's dashboard.

REQ-7: The system shall provide a detailed view of each event, including date, time, location, and participating companies.

4.4 Notification System

4.4.1 Description and Priority

This feature enables the system to provide timely notifications to users regarding updates regarding tests, interviews, and events. It is of high priority as it ensures users are informed and engaged.

4.4.2 Stimulus/Response Sequences

Stimulus: An event is scheduled or updated.

Response: System sends a notification to relevant users.

4.4.3 Functional Requirements

REQ-8: The system shall allow users to set notification preferences based on their interests (e.g., company, event type).

REQ-9: The system shall send notifications to users based on their selected preferences and updates regarding tests, interviews, and events.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance requirements ensure the system operates efficiently under various circumstances, guaranteeing an optimal user experience.

Performance under Normal Load:
The system shall respond to user interactions (e.g., logins, searches, notifications) within 2 seconds, ensuring a seamless user experience.

Performance under Heavy Load:
The system shall maintain response times below 5 seconds even under heavy load (e.g., during peak usage times) to prevent delays in critical functionalities.

Database Query Performance:
Database queries for event information and user data retrieval shall execute within 1 second to enhance system responsiveness.

5.2 Safety Requirements

Safety requirements are vital to ensure the product's usage does not pose risks or harm to users or their data.

User Data Privacy:
The system shall comply with data privacy laws and regulations to ensure the protection and privacy of user data (e.g., GDPR, HIPAA).

Data Encryption:
All sensitive user data, including passwords, shall be encrypted during storage and transmission to prevent unauthorised access.

5.3 Security Requirements

Security requirements aim to safeguard the product and users' data from unauthorised access and misuse.

User Authentication:
The system shall implement secure user authentication mechanisms (e.g., multi-factor authentication) to ensure only authorised users can access the system.

Secure Communication:
All communication between the system and users shall be encrypted using industry-standard protocols (e.g., HTTPS) to prevent eavesdropping and data tampering.
Protection against SQL Injection and Cross-Site Scripting (XSS):

The system shall employ appropriate measures to mitigate SQL injection and XSS attacks, ensuring the security of the application.

5.4 Software Quality Attributes

Software quality attributes define characteristics that are important for both customers and developers, ensuring a reliable and user-friendly product.

Usability:
The system shall prioritise ease of use, ensuring an intuitive and user-friendly interface to enhance user satisfaction.

Reliability:
The system shall be available 99.9% of the time, minimising downtime and ensuring a reliable user experience.

Maintainability:
The system shall be designed and structured in a way that allows for easy maintenance and updates to accommodate future enhancements and changes.

5.5 Business Rules

Business rules outline the operating principles of the product, specifying which individuals or roles can perform specific functions under various circumstances.

User Access Levels:

Only registered and authenticated users shall have access to personalised features, such as viewing event details and setting notification preferences.

Administrator Privileges:

The placement team administrators shall have the authority to create, edit, and delete events, manage user accounts, and update company-related information.

6. Other Requirements

In this section, we define any additional requirements that are not covered elsewhere in the SRS.

Database Requirements:

The system shall utilise a relational database management system (DBMS) to store and manage data securely and efficiently.

Internationalisation Requirements:

The system shall support multiple languages to accommodate international users. The default language will be English.

Legal Compliance:

The system shall comply with all relevant legal requirements, including data privacy laws and regulations applicable to the regions where it operates.

Reuse Objectives:

The system shall adhere to coding and design practices that promote code reusability to optimise development efforts for future updates and expansions.

Appendix A: Glossary

Terms and Definitions

SRS: Software Requirements Specification

DBMS: Database Management System

Appendix B: Analysis Models

In this section, we will include pertinent analysis models such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.

Appendix C: To Be Determined List

List of TBD References

TBD 1: Detailed API protocols for data communication.

TBD 2: Event-related error handling and recovery mechanisms.