Objective

The primary objective of this application is to streamline and improve the placement process within educational institutions by providing an online platform for students, recruiters, and the placement department. This platform will allow secure registration, job listing, application tracking, and efficient communication between all parties. ultimately enhancing the placement success rate and operational efficiency of the Training and Placement Department.

Requirements Specification (RS)

The **Requirements Specification (RS)** outlines the core functional and non-functional requirements. Functional requirements offer, such as login, listing job opportunities, and tracking applications. Non-functional requirements, meanwhile, ensure system usability, security, and performance.

No.	Requirement	Essential/ Desirable	Description of the Requirement	Remarks
RS1	User Login and Authentication	Essential	Secure login with roles for students, recruiters, and admin	Role-based access control
RS2	Placement Opportunities Listing	Essential	Feature to list job and internship openings	Regular updates required
RS3	User Profile Management	Essential	Allow users to manage their profiles	Editable with verification
RS4	Application Tracking System	Essential	Allow students to apply and view their application status	Real-time tracking

RS5	Communication Portal	Desirable	Messaging between students and T&P/recruiters	Supports file attachments
RS6	Real-time Notifications	Desirable	Notifies users about new listings, updates, and announcements	Push notifications for mobile
RS7	Search and Filter	Essential	Allow users to search and filter job listings by keywords, location, and role	Enhances accessibility
RS8	Admin Dashboard	Essential	Allows admin to manage users, listings, and system settings	Controls and insights
RS9	Reports Generation	Desirable	Admin and recruiters can generate reports on student applications.	For data analysis and insight

Database Fields Specification

User table:

No.	Field Name	Range of valid values for the field	Remarks
1	User_id	1 to 10000	Primary Key
2	User_Name	Up to 15 characters in length.	Special characters like underscore are not allowed.
3	Email _id	Up to 30 characters in Length	Unique
4	Password	Up to 15 characters in length.	Special characters like underscore are allowed.

Job Listings Table:

No.	Field Name	Range of valid values for the field	Remarks
1	Listing_ID	1 to 10000	Primary Key
2	Recruiter_ID	1 to 10000	Foreign Key to users
3	Job_Title	Up to 50 characters	Descriptive title
4	Location	Up to 30 characters	Job location
5	Application_Deadline	Date	Closing date for applications

Applications Table:

No.	Field Name	Range of valid values for the field	Remarks
1	Application_ID	1 to 10000	Primary Key
2	Listing_ID	1 to 10000	Foreign Key to listings
3	Student_ID	1 to 10000	Foreign Key to Users
4	Application_Date	Date	Date of application
5	Status	Applied/Shortlisted/Rejected	Application status

Messages Table:

No.	Field Name	Range of valid values for the field	Remarks
1	Message_ID	1 to 10000	Primary Key
2	Sender_ID	1 to 10000	Foreign Key to Users
3	Receiver_ID	1 to 1000	Foreign key to users
4	Message_Content	Up to 500 characters	

Recruiter Company Details Table:

No.	Field Name	Range of valid values for the field	Remarks
1	Company_ID	1 to 10000	Primary key
2	Company_Name	Up to 50 characters	Name of the company
3	Company_About	1 to 10000	About the company
4	Company_Criteria	Up to 30 characters	Criteria of the company
5	Company_Openings	Up to 30 characters	Number of openings
6	Company_DriveDate	Valid date	Drive date
7	Company_Compensation	Up to 30 characters	Compensation offered
8	Application_End_Date	Valid date	Application end date

High Level/Detailed Design (HLD/DD)

Overview of the system
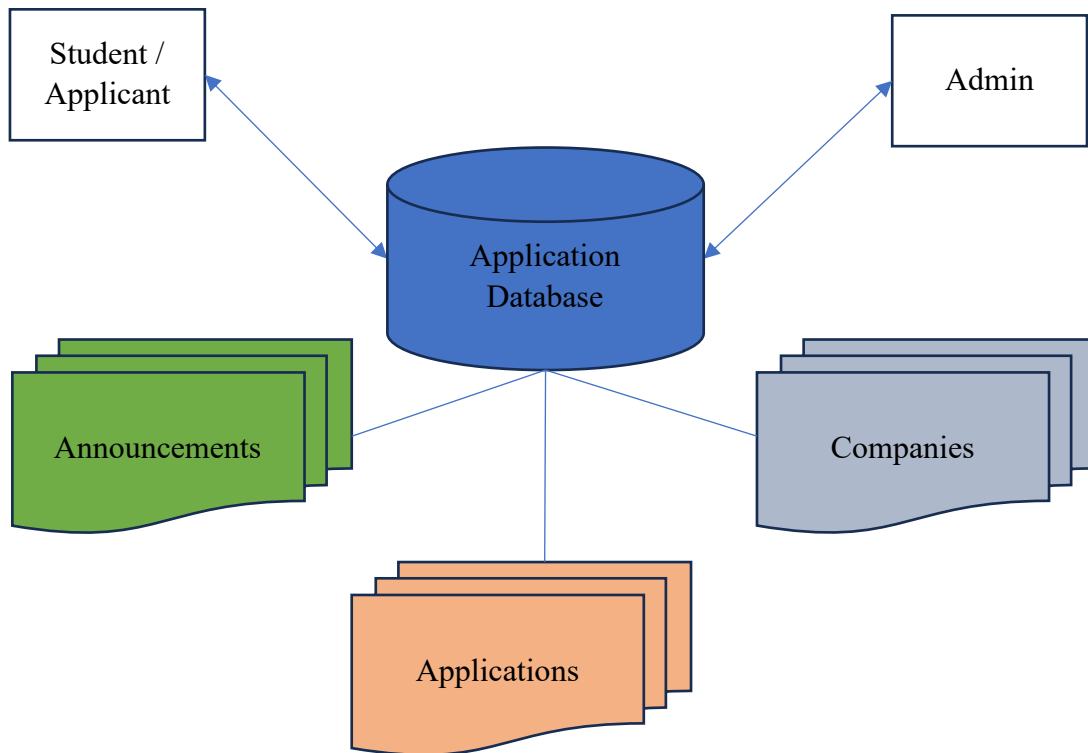
Design Components

The system is organized into various screens based on the user's role within the platform.

Student Module:
1. User Registration and Login
2. Dashboard
3. Application Tracking
4. Communication Portal
5. Check Announcements
6. Company Search
7. Profile Management
8. Fetch Results
9. Logout Screen

Admin Module:
1. Admin Login
2. User Management
3. Add Announcements
4. Add Companies
5. Fetch Applications
6. Add Results
7. Logout Screen

Test-Plan (TP)

A test plan outlines the strategy and scope for testing to ensure the application's functionality, security, usability, and performance meet the required standards. This test plan is structured to validate that the online application for the Training and Placement Department performs as expected across various scenarios.

The testing process includes multiple phases, each targeting specific areas of the system. **Unit Testing** checks individual components like login, profile management, and application tracking, ensuring that each module operates correctly in isolation. **Integration Testing** examines the interaction between modules, such as how user authentication links to personalized job listings. This phase helps confirm that these connections function smoothly, providing coherent user experience. **System Testing** tests the entire application for compliance with the specified requirements, checking for seamless navigation, proper data retrieval, and secure data handling across all features.

These are important to note that the test cases cover all the aspects of the system (ie, all the requirements stated in the RS document).

No.	Test case Title	Description	Expected Outcome	The requirement in RS that is being tested	Result
1	Successful User Registration	Register new user with valid details correct password	User successfully registered and redirected to dashboard	RS1	Passed
2	Unsuccessful User Verification due to wrong password	Attempt login with wrong password	Error message: "Invalid Password"	RS2	Passed

3	Profile Update	Update user profile information	Updated profile saved correctly	RS3	Passed
4	Job Listing Visibility	View job listings based on user role	Students can view listings; others are restricted	RS8	Passed
5	Application Submission	Submit job application as a student	Status updated to "Applied"	RS6	Passed
6	Real-time Notification Delivery	Send notifications for new job listings or updates	Notifications appear instantly on user dashboard	RS4	Passed
7	Message Sending and Receiving	Send a message to recruiter through communication portal	Message successfully sent and visible to recipient	RS,7	Passed
8	Load Test Under High Traffic	Test system with multiple concurrent users	System maintains responsiveness and does not crash	RS5	Passed
9	Data Security Verification	Check data encryption for sensitive user information	Passwords are stored securely, and access is restricted	RS1, RS3	Passed