

# **Software Requirements**

## **Specification**

**for**

### **NITC PLACEMENT WEBSITE**

**Version 1.0**

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**Date:**

**08/02/2024**

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## Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	RAJKUMAR R.	This document is intended to describe the Software requirements and design for the developed product.	08/02/2024

# 1. Introduction

## 1.1 Document Purpose

This document specifies the SRS of the intended project submitted alongside. Functional requirements, product overview, interfaces, and product design are attached to this document.

## 1.2 Product Scope

This product is a NITC owned placement website. By using this website students can view the placements overall view. Using this product students can view past performances during placements other than this and enroll in different drives or boot camps organized by NITC.

Along with this NITC portal's admin can maintain student records (placed students and to be interviewed ie. schedule a student interview).

By using this portal CCD can maintain overall placements records.

## 1.3 Intended Audience and Document Overview

This document is intended for software developers, CCD staff, professors, companies, students, and organizations intending to use this product. They can use it to understand more about the product. It generally states the following:

1. Various definitions and acronyms used in the product and the document itself.
2. Overview of the product and design constraints.
3. Interfaces for the software, hardware, and user.
4. Some assumptions considered in the product based on certain conditions.
5. Use case model for the product.
6. Performance and security requirements

## 1.4 Definitions, Acronyms, and Abbreviations

1. *Admin - A person assigned the task to manage the interactions of the user with the product.*
2. *Application - When a person applies for a company, the user's details are sent to the company to help in shortlisting.*
3. *Identity number - A unique number assigned to a person or an organization by the government. For example -Aadhar Number, Business Identification Number, etc..*
4. *Company-An organization that is doing recruitment.*
5. *System - The hardware interface of the product.*
6. *User – The human who uses this portal.*
7. *NITC-Nation Institute Of Technology Calicut.*

## 1.5 Document Conventions

1. *Topics are center aligned at the top of the page followed by their sequence number.*
2. *Topics are styled with font family "Times New Roman" size 21.*
3. *Sub-topics starting with bold font and sequentially numbered in size 15 written in "Times New Roman".*
4. *Context followed by sub-topics have the font family "Times New Roman" and size is 12.*
5. *In context bullets are used and they are written in "Times New Roman" with size 11.*

## 1.6 References and Acknowledgments

1. *HTML - <https://www.w3schools.com/html/>*
2. *Node JS - <https://nodejs.org/en/docs/>*
3. *CSS - <https://developer.mozilla.org/en-US/docs/Web/CSS>*
4. *Express JS - <https://expressjs.com/en/5x/api.html>*
5. *Javascript - <https://developer.mozilla.org/en-US/docs/Web/JavaScript>*
6. *NPM - <https://docs.npmjs.com/>*
7. *MongoDb-<https://www.mongodb.com/>*

## 2.Overall Description

### 2.1 Product Overview

*There is no existing placement website that provides the details of the following year's placement records and there is no presence of a website there in NITC that maintains placement procedures and statistics of past year placements.*

*Solving the above-mentioned problems, we have created this product which aims to allow companies and students to see the past years' placements records and CCD can easily enroll students for placement upcoming drives. This product can work alongside the already existing placement website portals. This product allows Admin to enroll students in upcoming placement drives and see the past year's placemat reports.*

### 2.2 Product Functionality

The product implements the following functions:

- signup interface for students.
- Login/logout (or authentication) for admin & student
- Admin can enroll students for upcoming drives.
- Admin delete and modify student enrollment to respective drives.
- Admin add/notify upcoming drives
- Students see the enrollment and interview notification
- Admin add and delete companies.
- Admin can see records of placed and unplaced students.
- Students see the enrollment and interview notification
- Admin can schedule the interview's schedules.
- Students can view their interview schedules.
- Reports (past year placements review).

### 2.3 Design and Implementation Constraints

*Design and implementation constraints taken into consideration are*

1. *Web connection is reliable.*
2. *The identity number entered by both individuals and admins is correct.*
3. *The database server is currently up and running.*

4. *Users can either be individuals or companies.*
5. *Users understand and write in English.*
6. *Users don't register the same more than 1 time.*
7. *Admin can delete a job or a user whenever a suspicious activity is detected.*
8. *User's details are verified to interact with the system*
9. *Individuals or organizations don't require documents from applicants beforehand.*

## 2.4 Assumptions and Dependencies

*Various assumptions and dependencies taken into consideration are as follows:*

1. *User is a human,*
2. *Users have good knowledge about using web browsers.*
3. *The user has a good internet connection.*
4. *Product is deployed and users know about this.*
5. *The system runs on a fast machine and reacts to users in real time.*

# 3. Specific Requirements

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

*Users can interact through the homepage of the website implemented as the product. Hardware Interfaces*

*System will interact with the hardware through the following functionalities:*

1. *Viewing screen – through desktop or portable computer screen.*
2. *Input tools – through keyboard and mouse.*

### 3.1.2 Software Interfaces

*The User can interact with the software through the following functionalities:*

1. *Viewing web pages:*
  - *Web browsers: Chrome, Safari, Firefox, etc.*
  - *JavaScript.*
2. *Interaction - High-speed internet connection, HTTPS, TCP.*

## 3.2 Functional Requirements

### 3.2.1 The system implements the functionality of login, signup, posting jobs or applying for jobs.

#### 3.2.2 Features:

##### 1. Login for users and admin

Description: This implements the login interface for admin or users.

Input: The user enters their credentials.

Processing: The system will authenticate the user credentials.

Output: After successful authentication, the system allows the functionalities respective to their user types.

## 2. Sign-up for users

Description: This implements the signUp interface for users.

Input: Users enter their details for sign-up.

Processing: The system will add the user data in the database tables respective to their user types.

Output: After successful signup, the system will provide the username as email and password profile to the respective user and will prompt to the user page.

## 3. enrolling placement drives

Description: This implements the ability of the admin to enroll students for upcoming drives.

Input: Admin can fill student details and students for placement upcoming drives.

Processing: The system will enroll students for the upcoming placement drives.

Output: student added successfully.

## 3. Notifications

Description: This allows the system to send notifications to users.

Input:admin enroll students details.

Processing: The system will show the approval notification to the user.

Output: The user received approval or rejection notification.

## 4. Adding companies

Description: This allows the admin to add companies for upcoming drives.

Input: company details(name, descriptions).

Processing: The system will add the company.

Output: The system will show the company available.

## 5. Deleting companies

Description: This allows the admin to delete companies when company drives complete.

Input: company details(name, descriptions).

Processing: The system will delete the company.

Output: The system will remove the company in the companies database available.

## 5. Delete a User enrollment:

Description: This allows the admin to delete a user enrollment.

Input: admin press delete button to remove students for upcoming placement drives .

Processing: The system will remove students for upcoming placement drives .

Output: The system will show the notification to users that your enrolment is rejected.

## 6. Updating profile:

Description: This allows the user to update their profile.

Input: The user enters the updated details in the system.

Processing: The system will update the user's details in the database.

Output: The system will show the updated profile to the user.

## **7 Updating student placement status**

Description: This allows the admin to update students' placement status.

Input: admin press edit button to update students placement status .

Processing: The system will update students' placement status .

Output: The system will showpopup student status updated successfully.

## **7 Filter student According to Branch**

Description: This allows the admin to filter students' according to their branch.

Input: admin press filter button to see students branchwise .

Processing: The system will show the students according to the selected filter branch .

Output: The system will show the respective Branch student only.

### 3.3 Use Case Model

**Use case diagram**

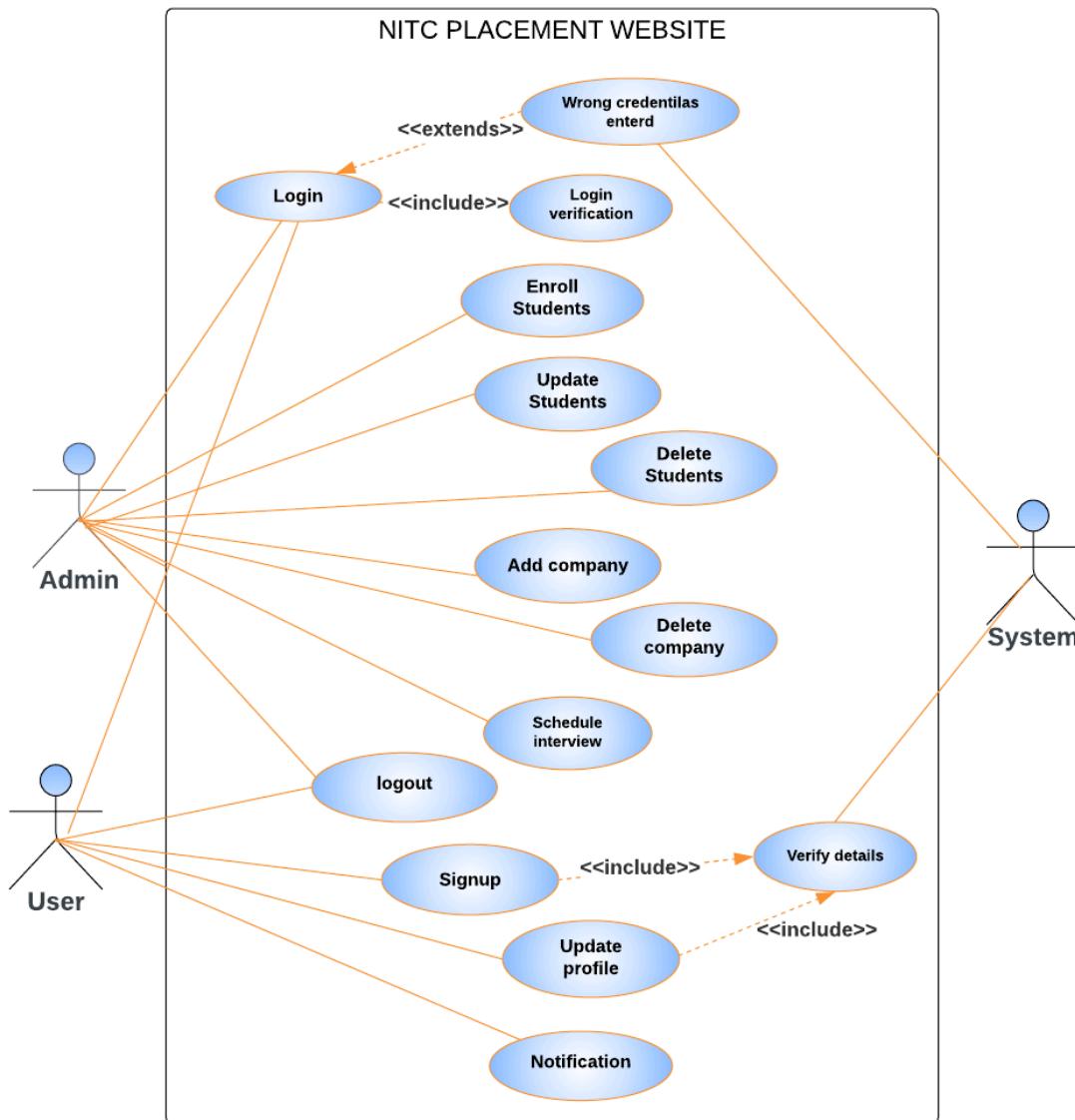


FIG . USE CASE DIAGRAM

### 3.3.1 Use Case #1 Login

**Purpose** - This represents the login for the admin or user. This unlocks different functionalities.

**Precondition** – The system must be connected to the database and the user or admin must be verified for successful login.

**Actors** – System, Admin, User

**Extends** – Wrong credentials entered by the user.

**Flow of events:**

1. Users enter their credentials.
2. The system verifies the entered details.

**Includes** – Use Case #3: Login Verification

**Postcondition** – System prompts to the admin screen for admin and profile for a user.

### 3.3.2 Use Case #2 User sign-up

**Purpose** – The user who signs up into the system with their details

**Precondition** – The user must enter valid information.

**Actors** – User System

**Flow of events:**

1. User enters its credentials
2. The system checks the inputs.
3. The system prompts the user to profile.

**Postcondition** – The system adds the user information to the database and prompts the user to its profile.

### 3.3.3 Use Case #3 Updating profile

**Purpose** – User enters updated profile in the system

**Precondition** – Users must be willing to update their profile.

**Actors** – User, System

**Flow of events:**

1. User enters the updated information in the form.
2. The system validates the input entered by the user.
3. The system updates the table with the entered information.

**Postcondition** – The system updates the table in the database and prompts the user to profile.

### **3.3.4 Use Case 5 Enroll student**

**Purpose** – User registration for upcoming placement Drives.

**Precondition** – The Admin must be authenticated and want to enroll students for upcoming placement drives.

**Actors** – Admin, System

**Flow of events:**

1. Admin login to system.
2. Admin filed the students required Details..
3. press the enroll button to add students for upcoming placement drives.

**Postcondition** – System adds students enrollment for upcoming placement drives .

### **3.3.5 Use Case 6 Adding Company**

**Purpose** – Admin adds company along with the required details.

**Precondition** – Admin must be authenticated and willing to add a company.

**Actors** – Admin.

**Flow of events:**

1. Admin adds the company details.
2. The system adds the company to the company table in the database.

**Postcondition** – The company name views the provided company section from the profile.

### **3.3.6 Use Case 7 Delete Student**

**Purpose** – The admin deletes the wrong user enrollment .

**Precondition** – The user must be an admin and user already enrolled for upcoming placement drives.

**Actors** – User, Admin, System

**Flow of events:**

1. Admin login in system.
2. Admin wants to delete the enrollment for respected students.
3. Admin press delete user to delete students for upcoming placement drives.
4. system deletes the user from the user's table in the database.
5. **Excludes** – There are no users available to delete.

**Postcondition** – Provided users table is updated

### **3.3.7 Use Case 8 Edit Student Status**

**Purpose** – The admin edits students to update their placement status.

**Precondition** – Admin must be logged in the system

**Actors** – Admin, System

**Flow of events:**

1. Admin selects the students t.
2. Admin update the student details..
3. System shows the popup student updated successfully..

**Postcondition** – The system updates the student enrollment.

### 3.3.8 Use Case 9 Notification

**Purpose** – User sees the notification.

**Precondition** – User must have enrolled upcoming placement drives through admin..

**Actors** – System, User

**Postcondition** – System shows the notification user like interviews etc.

### 3.3.9 Use Case 10 Schedule interview

**Purpose** – Admin Schedule user interview.

**Precondition** – The user must have applied for the job posted

**Actors** – System, User, Admin.

**The flow of events:**

1. Admin post-interview notification to user.
2. The user sees the interview notification.

**Postcondition** – The system shows the interview notification to users.

## 4. Other non-functional requirement

### 1. Safety and Security Requirements

- *User login authentication is implemented with the user's email and password.*
- *User sign-up verification is not yet implemented with this version of the product. However, the user should be verified with their identity number, mobile number, and email.*
- *Admin may delete approval provided or any user from the database if he/she finds any vulnerability with the system.*

### 2. Software Quality Attributes

4.3.1 *Reliability: The system processes the queries by the user and responds in real-time.*

4.3.2 *Secure: The user is verified with their email and mobile number, hence the user's security is not compromised.*

4.3.3 *Adaptability: As the product is independent of the platform, it requires only a web browser and a secure connection to work.*

## ***5. Other Requirements***

### ***Appendix B - Group Log***

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# **Design Document**

for

## **NITC PLACEMENT WEBSITE**

Version - 1.0

(Based on SRS Version – 1.0)

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<b>Project Owner:</b>	Prof. (Dr) G Gopa Kumar
<b>Course:</b>	final semester Project
<b>Date:</b>	10-03-2024

## Glossary

NITC	National Institute of Technology Calicut
SRS	Software Requirement Specification
ER Diagram	Entity Relationship Diagram
UML	Unified Modeling Language

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# 1. Detailed Design through UML diagram

## 1.1 Responsibilities – Use Case Diagram

Use case diagram shows the basic functionalities of your software along with the actors Who are involved directly or indirectly with the system. As per this use case diagram we have three actors user ,system , admin and the various functionalities are shown in the oval shape within the rectangular box.

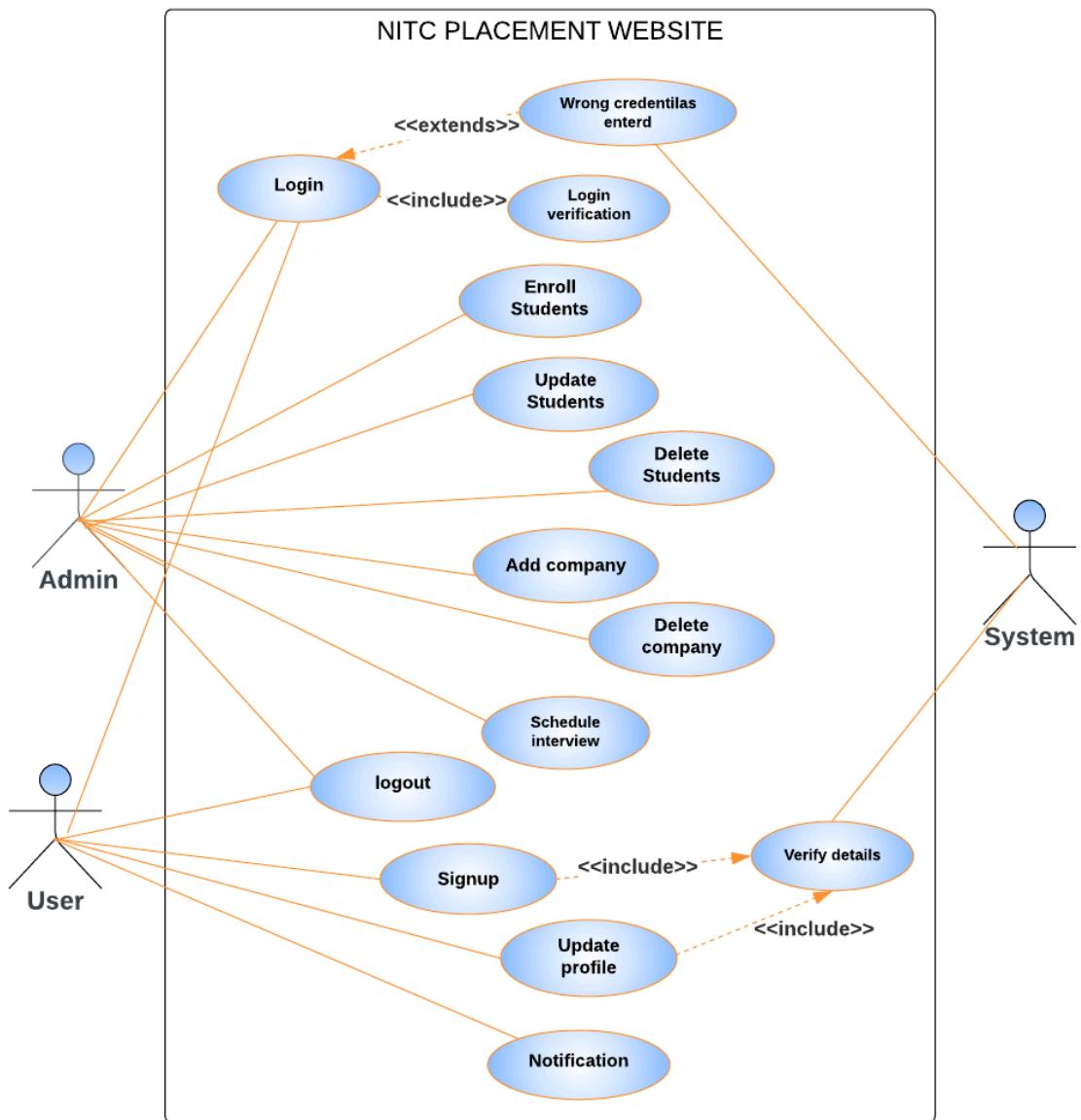


FIG . USE CASE DIAGRAM

## 2. Database Design

### 2.1 ER Diagram

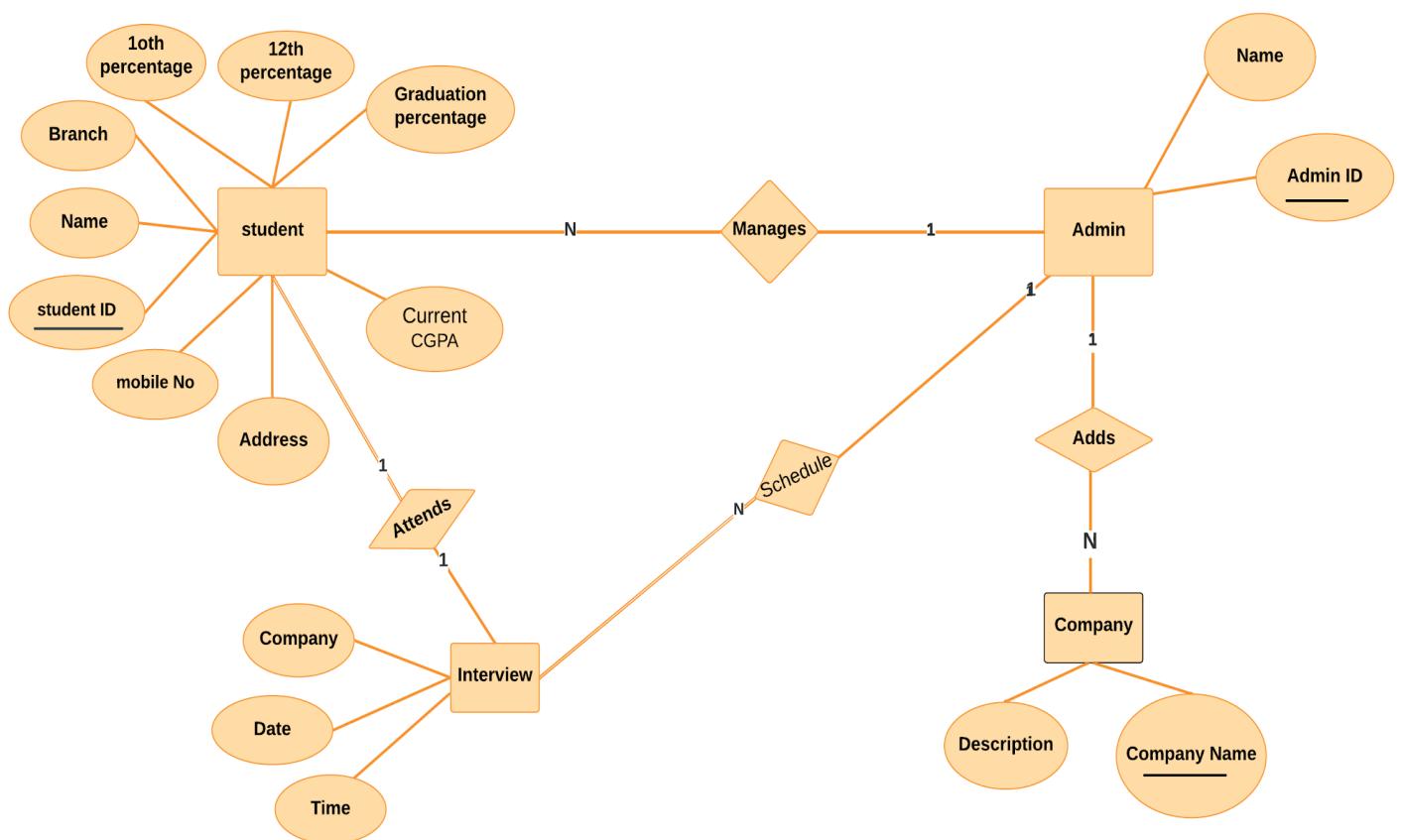


Fig:2.1 – ER Diagram

## 3. Implementation Plans

### 3.1 Technology Stack

We have used Mern stack(mongodb,express js,nodejs,react js ) for developing our NITC Placement website . Along with this we have used React js for creating and designing system's frontend. For managing the backend, we have used mongodb from mongodb Server. Languages which were used while designing this system are: Javascript and html, css.

### 3.2 User Interface Prototyping

#### 3.2.1 Home Page

The screenshot shows the homepage of the National Institute of Technology Calicut (NIT Calicut). The header is dark blue with white text. On the left, there is a circular logo with text in Malayalam and English, followed by "NATIONAL INSTITUTE OF TECHNOLOGY CALICUT". To the right of the logo are links for "About NITC", "Our Recruiters", "Statistics", "Procedure", "Contact Us", and "Register". Further to the right is a "G2" logo with a globe icon. The main content area features a large photograph of the institute's entrance, showing a paved path leading to a gate with a sign that reads "National Institute of Technology CALICUT". Below the photo are five small circular dots. At the bottom of the page, a dark blue footer bar contains the text "ALL RIGHTS RESERVED © 2024. NIT CALICUT. (DEVELOPED & MANAGED BY - RAJKUMAR)".

### 3.2.1 U1: User Login

This interface is about the login page where user needs to enter his or her Username and password in order to login to the system. This interface also Provides an option for Register where new users can register themselves.

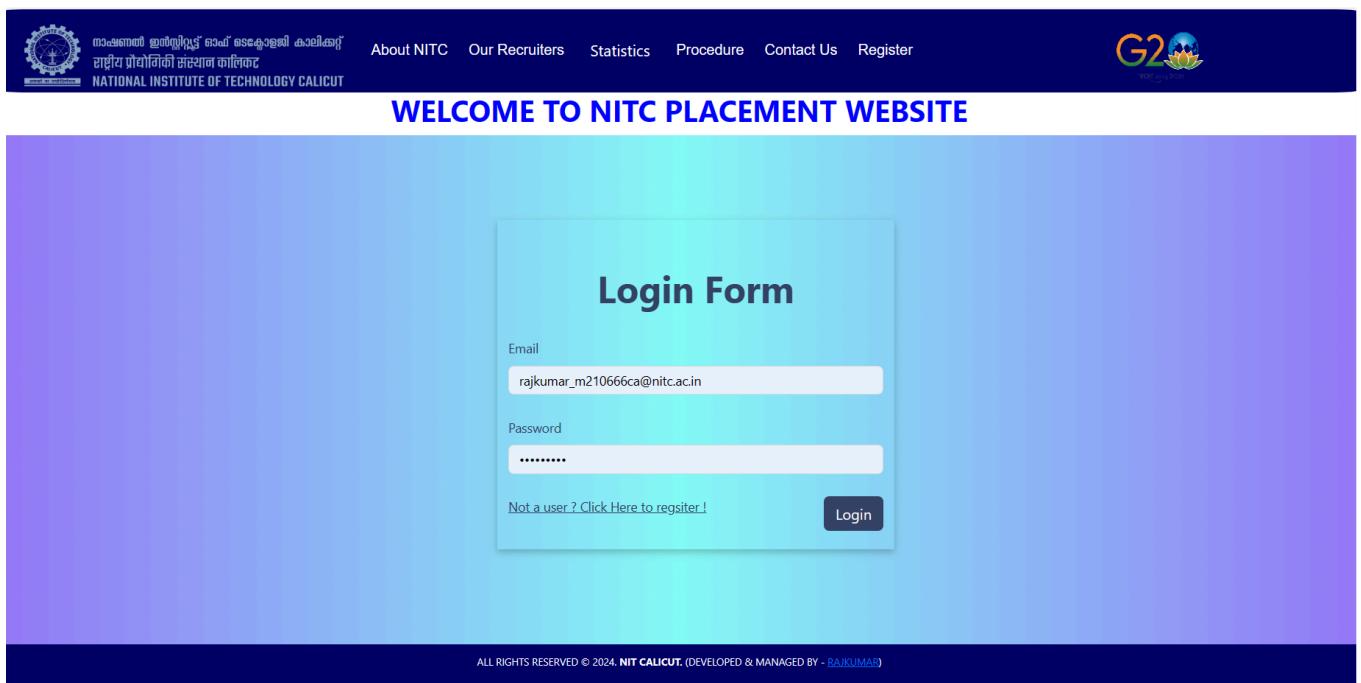


Fig:3.2.1 UI-LOGIN

### 3.2.2 Admin Login

The screenshot shows the homepage of the NITC Placement Website. At the top, there is a dark blue header bar with the NITC logo, the text "NATIONAL INSTITUTE OF TECHNOLOGY CALICUT", and links for "About NITC", "Our Recruiters", "Statistics", "Procedure", "Contact Us", and "Register". To the right of the header is the "G20" logo. Below the header, a large banner with a purple-to-blue gradient background displays the text "WELCOME TO NITC PLACEMENT WEBSITE" in bold blue capital letters. In the center of the page is a light blue rectangular box containing a "Login Form". The form has two input fields: "Email" with the value "Admin121@gmail.com" and "Password" with the value "\*\*\*\*\*". Below the password field is a link "Not a user? Click Here to register!". To the right of the password field is a dark blue "Login" button. At the bottom of the page, a dark blue footer bar contains the text "ALL RIGHTS RESERVED © 2024. NIT CALICUT. (DEVELOPED & MANAGED BY - RAJKUMAR)".

### 3.2.2 Register

This interface is of Register where new user can register themselves by providing details such as Name, Password, Email. Once the user fill all the he/she can click on the submit button to register themselves to the system. Without Registering themselves users can get access to the system features.

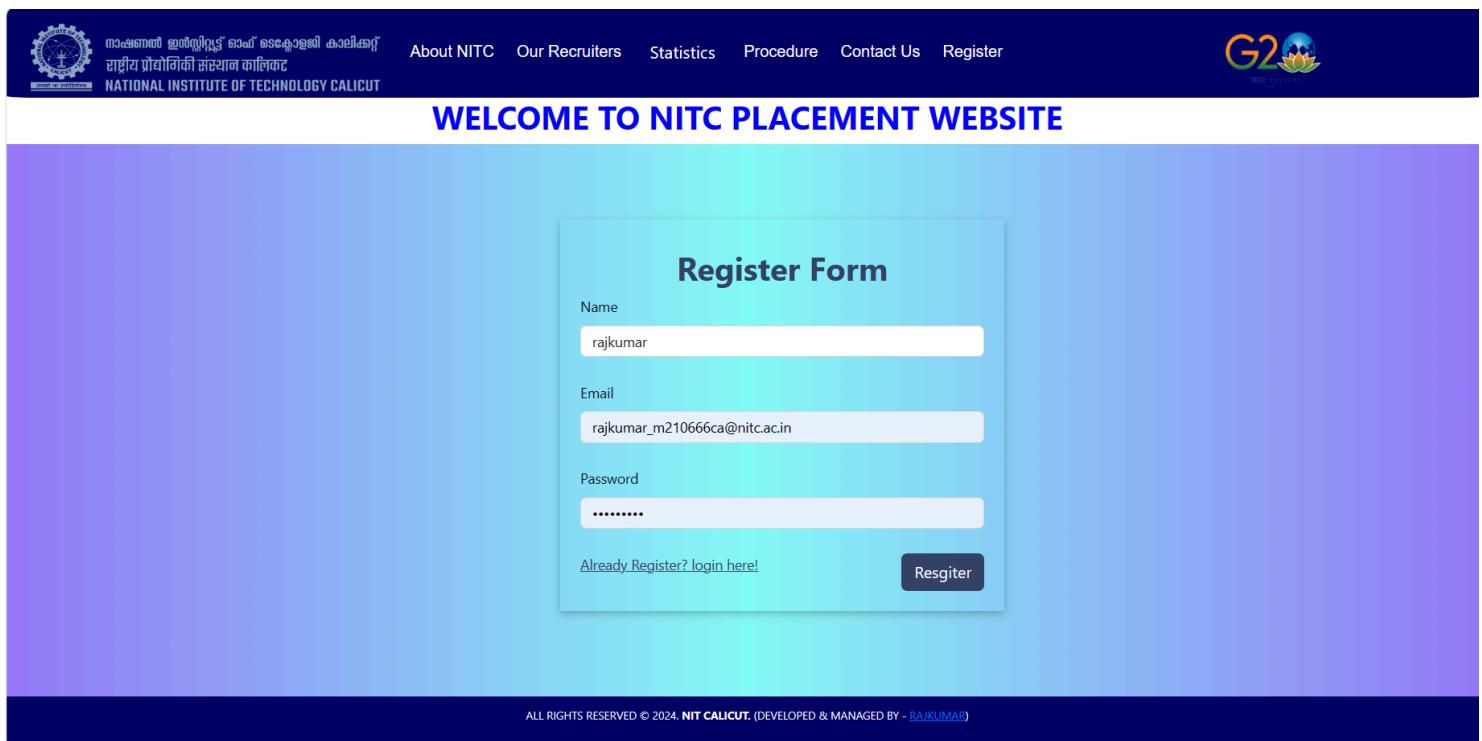


Fig:3.2.2 – UI-Register

### 3.2.3 U3 : User Home Page

This interface is about the user Homepage where users after registering themselves can view this dashboard.

## Welcome to User Panel

The screenshot shows the User Home Page of the placement management system. At the top, a blue header bar displays the text "WELCOME TO RAJKUMAR NITC PLACEMENT MANAGEMENT SYSTEM". To the right of this header are three buttons: a yellow bell icon, a user profile icon with the name "RAJKUMAR", and a red "Logout" button. Below the header, there are two green rectangular buttons labeled "View Profile" and "Contact". A large, empty white area follows, likely representing the main content or dashboard. At the bottom of the page, a dark footer bar contains the text "All rights reserved © R.K RAJPUT".

Fig:3.2.3 – User Home Page

### 3.2.5 U5 : Admin Home Page

This interface is about the Admin Home Page which can be accessed by the After login to the system.

**WELCOME TO ADMIN121 NITC PLACEMENT MANAGEMENT SYSTEM**

ADMIN121 Logout

**STUDENTS RECORDS**

Select Frequency

LAST 1 Week ▾

Select Branch

ALL ▾

**Add New**

Date	NAME	ENROLLMENT	EMAIL	GENDER	MOBILE	BRANCH	ADDRESS	TENTH	TWELTH	GRADUATION	CGPA	Actions
------	------	------------	-------	--------	--------	--------	---------	-------	--------	------------	------	---------



No data

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**Fig:3.2.5 – UI-Admin Home Page**

WELCOME TO ADMIN121 NITC PLACEMENT MANAGEMENT SYSTEM

ADMIN121 Logout

COMPANY RECORDS

Select Frequency

LAST 1 Week ▾

Add New

Date	COMPANYNAME	CTC	Description	Actions
 No data				

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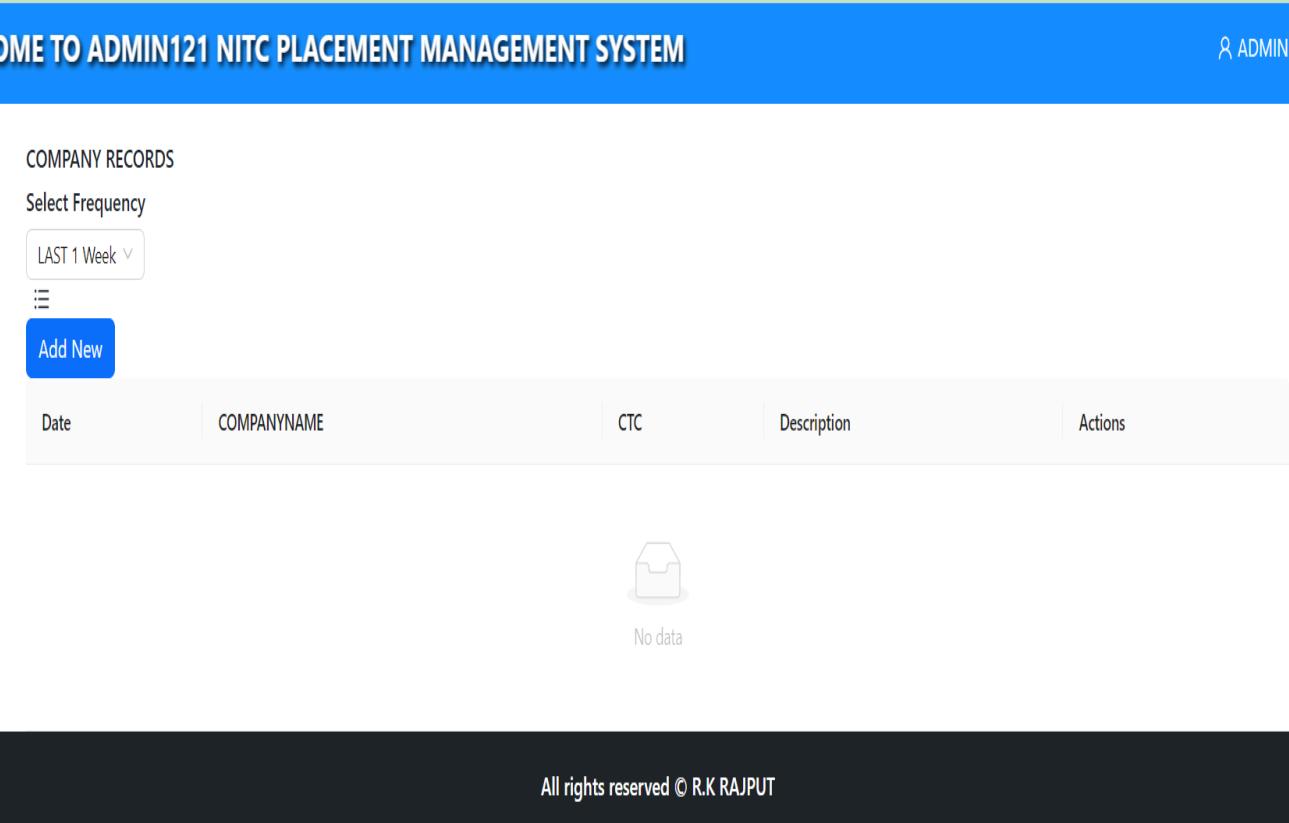


Fig:3.2.6 – UI-Admin Home Page

## 4. Test Cases

### 4.1 Test Case 1 user\_Login

**Author:** RAJKUMAR RAJPUT

RAJKUMAR RAJPUT

**Test Case Description:**

Test Scenario: Click Login for Successful Login  
Test Case: Enter valid username and password

**Pre-Conditions:**

Users must be registered in the database which is handled by the admin.

**Test Steps:**

- Select user role
- Enter Username
- Enter Password
- Click Login Button

**Test Data:**

Username: radha@gmail.com  
Password: radha123#

**Expected Result:**

Successful Login and redirection to the dashboard screen.

**Post Condition:**

Reached to Dashboard Screen

## 4.2 Test Case 2 Admin\_Login

**Author:** RAJKUMAR RAJPUT

**Test Case Description:**

Test Scenario: Click Login for Successful Login

Test Case: Enter valid username and password

**Pre-Conditions:**

Username and password should be present in the database.

**Test Steps:**

Enter Username

Enter Password

Click Login Button

**Test Data:**

Username: admin@gmail.com

Password: admin#123

**Expected Result:**

Successful Login and redirection to the dashboard screen.

**Post Condition:**

Reached to Dashboard Screen

### 4.3 Test Case 3 Enrolment

**Author:** RAJKUMAR RAJPUT

**Test Case Description:**

Test Scenario: Click Enrol Button for successfully sending a request to enroll upcoming placement drives.

Test Case: fill the required details.

**Pre-Conditions:**

Users must be registered in the database which is handled by the admin.

**Test Steps:**

Select Enroll option  
fill the required details.  
Click send enroll request button

**Test Data:**

Select enroll button  
fill required details(name,email,mob,aadhar,10th percentile,12th percentile,under graduation percentage,post graduation percentage,gender).

**Expected Result:**

The enroll request will be sent to the admin, and it will show status as pending.

**Post Condition:**

Shows status of enrollment request as pending.

#### 4.4 Test Case 4 Add company

**Author:** RAJKUMAR RAJPUT

**Test Case Description:**

Test Scenario: click add company button.

**Pre-Conditions:**

Admin must be registered in the database.

**Test Steps:**

Select add company button

Enter company name

Click Add company Button

**Test Data:**

company Name:Zoho

description: ctc 8lpa ,full time offer required skills c++,java.

**Expected Result:**

Popup message showing 'Company Added successfully'.

**Post Condition:**

Click OK button on the popup message

#### 4.5 Test Case delete company

**Author:** RAJKUMAR RAJPUT

**Test Case Description:**

Test Scenario: Click on the delete company button.

**Pre-Conditions:**

User must be an Admin and the company is already added.

**Test Steps:**

click the delete company button selected company deleted.

**Test Data:**

company:zoho

ctc:8

**Expected Result:**

Popup message showing ‘company deleted successfully’.

**Post Condition:**

Click OK button on the popup message

## 4.6 Test Case Register

**Author:** Rajkumar Rajput

**Test Case Description:**

Test Scenario: Click on Register Button to sign up for services provided by the software.

Test Case: Enter User Details.

**Pre-Conditions:**

Users must have a valid email id.

**Test Steps:**

Select Image

Enter Name

Enter Email

Enter Password

Click Register Button

**Test Data:**

Image : Image1

First Name : Mohit rajput

Email : Mohit@gmail.com

Password : mohit123\$

**Expected Result:**

Popup message showing 'Registered Successfully'.

**Post Condition:**

User is redirected to the Login Page

## 4.7 Test Case update student enrollment

**Author:** Rajkumar Rajput

**Test Case Description:**

Test Scenario: Click on edit Button to update student enrollment and status .

Test Case: Enter student Details.

**Pre-Conditions:**

Admin must be logged in.

**Test Steps:**

Select edit button  
one form window open  
update the details  
click the submit button.

**Test Data**

First Name : Mohit rajput  
Email : Mohit@gmail.com  
status: unplaced  
mob:1234567890

**Expected Result:**

Popup message showing ‘student updated Successfully’.

**Post Condition:**

student details updated.

## References

- ❖ [https://www.lucidchart.com/pages/examples/uml\\_diagram\\_tool](https://www.lucidchart.com/pages/examples/uml_diagram_tool)
- ❖ <https://www.javatpoint.com/uml-diagrams>