



**Dharmsinh Desai University, Nadiad**

Faculty of Technology, Department of Computer Engineering

**B.Tech. CE Semester – VI**

**Subject: System Design Practice**

Project Title:

# **WEB APPLICATION OF TERMWORK SUBMISSION**

**By:**

**Parth Baudhanwala (Roll No: CE012      College Id: 17CEUBS013)**

**Meet Charola (Roll No: CE017      College Id: 17CEUOS071)**

**Guided By:**

**Prof. Pandav K. Patel**

**Assistant Professor**

**Department of Computer Engineering**



# Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

## CERTIFICATE

This is to certify that Object System Design Practice project entitled “Online Term Work Submission” is the bona fide report of work carried out by

**1) Parth Baudhanwala (17CEUBS013)**

**2) Meet Charola (17CEUOS071)**

Of Department of Computer Engineering, Semester VI, academic year 2019-20, under your supervision and guidance.

---

**Guide**

**Prof. Pandav K. Patel**  
Assistant Professor of  
Department of Computer  
Engineering, Dharmsinh  
Desai University, Nadiad.

---

**HOD**

**Dr. C. K. Bhensdadia**  
Head of the Department of  
Department of Computer  
Engineering, Dharmsinh  
Desai University, Nadiad.

## Table of Contents

|  |    |
|--|----|
| 1) Abstract.....                               | 4  |
| 2) Introduction.....                           | 5  |
| 2.1) Project Details: Brief Introduction ..... | 5  |
| 2.2) Technology and Tools Used .....           | 5  |
| 3) Software Requirement Specifications .....   | 7  |
| 3.1) Scope .....                               | 7  |
| 3.2) System Functional Requirements .....      | 7  |
| 3.3) Other Non-Functional Requirements.....    | 13 |
| 4) Design.....                                 | 14 |
| 4.1) Use Case Diagram.....                     | 14 |
| 4.2) Class Diagram.....                        | 16 |
| 4.3) Sequence Diagram.....                     | 17 |
| 4.4) Activity Diagram.....                     | 20 |
| 4.5) E-R Diagram .....                         | 22 |
| 4.6) Data Dictionary.....                      | 23 |
| 5) Implementation Details .....                | 25 |
| 6) Testing .....                               | 26 |
| 6.1) Testing Method.....                       | 26 |
| 6.2) Test Cases .....                          | 26 |
| 7) Screenshots .....                           | 27 |
| 8) Conclusion .....                            | 33 |
| 9) Limitations and Future Extensions.....      | 34 |
| 10) Reference / Bibliography .....             | 35 |

1).

## Abstract

---

Now a day, Term works, assignments & problem statements are doing on paper, so it is time to save trees & reduce the use of papers. This “TERMWORK SUBMISSION” web application provides you to upload your term work on faculty’s local machine. Where ever are you, you just need internet connection and this web application will be with you. You must solve assignments & problem statements which is created by faculties.

2).

## Introduction

---

### **2.1 Brief Introduction**

Our inspiration of this project is Moodle, which is currently in use by our university. We enhanced Moodle to our project with better user interface & better performance.

Faculties can create subjects which is associated with students. They can create labs & in particular lab they can create assignments & problem statements with the particular subject. Faculties can add lab-start-date & assignment-end-date. Before assignment-end-date students must have to submit their term work through our website, if student miss the assignment-end-date, then his/her term work will not be accepted. Faculty can also extend the assignment-end-date.

### **2.2 Technologies & Tools Used**

#### **Technologies:**

C#

ASP.NET

MVC 5

MySQL

Entity Framework 6.x

#### **Tools:**

Microsoft Visual Studio 2019

NuGet Package Manager

## **Platforms:**

IIS Express

localhost:44369

Local Machine

## 3). Software Requirement Specifications

---

### **3.1 Product Scope**

This website provides you to upload or submit your term work, assignment or solution of the problem statements before due date of the submission which is created by faculties to the local machine of the faculties. Also, this website is providing to perform create, edit & delete of student, subject, lab & assignment. Enroll students to particular subject or delete enrolled students to particular subject is also provided.

### **Types of Users**

1. Student
2. Faculty

### **3.2 System Functional Requirements**

#### **R.1: Student**

##### **R.1.1: Manage Account**

###### **R.1.1.1: Login**

**DESCRIPTION:** Student enters email-id and password required for logging into his account.

**INPUT:** Email-ID & Password.

**OUTPUT:** Student is logged in.

###### **R.1.1.2: Logout**

**DESCRIPTION:** Enables student to logout.

**INPUT:** Student's selection.

**OUTPUT:** Student is logged out.

#### **R.1.2: View Subjects**

**DESCRIPTION:** Students can see all the subjects in which she or he is enrolled.

**INPUT:** Click on view subjects' button.

**OUTPUT:** All subjects will be appeared.

#### **R.1.3: View Labs**

**DESCRIPTION:** Student can see all the labs related to subjects.

**INPUT:** Click on view labs button.

**OUTPUT:** All labs will be appeared.

#### **R.1.4: View Assignments**

**DESCRIPTION:** Students can see all the assignments related to labs.

**INPUT:** Click on view assignments button.

**OUTPUT:** All assignments will be appeared.

#### **R.1.5: Upload File**

**DESCRIPTION:** Students can see all the term-work related to assignments.

**INPUT:** Click on upload file button.

**OUTPUT:** Term-work will be submitted.



## **R.2: Faculty**

### **R.2.1: Manage Account**

#### **R.2.1.1: Login**

**DESCRIPTION:** Faculty enters email-id and password required for logging into his account.

**INPUT:** Email-ID & Password.

**OUTPUT:** Faculty is logged in.

#### **R.2.1.2: Logout**

**DESCRIPTION:** Enables student to logout.

**INPUT:** Student's selection.

**OUTPUT:** Student is logged out.

### **R.2.2: Manage Students**

#### **R.2.2.1: View Students**

**DESCRIPTION:** Faculty can view all the students which is created by him/her or other faculties.

**INPUT:** Click on view students' button

**OUTPUT:** List of all students will be appeared.

#### **R.2.2.2: Create Student**

**DESCRIPTION:** Faculty can create new student.

**INPUT:** Name, Email-ID, Branch, Division, Batch, Semester, Roll-No, Date of Birth, Password.

**OUTPUT:** A new student will be created.

#### **R.2.2.3: Edit Student**

**DESCRIPTION:** Faculty can edit existing student.

**INPUT:** Name, Email-ID, Branch, Division, Batch, Semester, Roll-No, Date of Birth, Password.

**OUTPUT:** Existing student will be edited.

#### **R.2.2.4: Delete Student**

**DESCRIPTION:** Faculty can delete existing student.

**INPUT:** Click on delete button.

**OUTPUT:** Existing student will be deleted.

#### **R.2.2.5: Enroll Student**

**DESCRIPTION:** Faculty can enroll the existing student by batch wise with particular subject which is created by him/her.

**INPUT:** Select subject, branch, division, batch.

**OUTPUT:** Existing student will be enrolled to the subject.

#### **R.2.2.6: Delete Enrolled Student**

**DESCRIPTION:** Faculty can delete existing enrolled student by batch wise with particular subject which is created by him/her.

**INPUT:** Select subject, branch, division, batch.

**OUTPUT:** Existing enrolled student will be deleted to the subject.

### **R.2.3: Manage Subjects**

#### **R.2.3.1: View Subjects**

**DESCRIPTION:** Faculty can view all the subjects which is created by him/her.

**INPUT:** Click on view subjects' button

**OUTPUT:** List of all subjects will be appeared.

#### **R.2.3.2: Create Subjects**

**DESCRIPTION:** Faculty can create new subject.

**INPUT:** Name & Semester.

**OUTPUT:** A new subject will be created.

#### **R.2.3.3: Edit Subjects**

**DESCRIPTION:** Faculty can edit existing subject.

**INPUT:** Name & Semester.

**OUTPUT:** Existing subject will be edited.

#### **R.2.3.4: Delete Subjects**

**DESCRIPTION:** Faculty can delete existing subject.

**INPUT:** Click on delete button.

**OUTPUT:** A existing subject will be deleted.

### **R.2.4: Manage Labs**

#### **R.2.4.1: View Labs**

**DESCRIPTION:** Faculty can view all the labs which is created by him/her related to the subject.

**INPUT:** Click on view labs button.

**OUTPUT:** List of all labs will be appeared

#### **R.2.4.2: Create Labs**

**DESCRIPTION:** Faculty can create new lab related to the subject.

**INPUT:** Lab-No & Lab-Start-Date.

**OUTPUT:** A new lab will be created.

#### **R.2.4.3: Edit Labs**

**DESCRIPTION:** Faculty can edit existing lab.

**INPUT:** Lab-No & Lab-Start-Date.

**OUTPUT:** Existing lab will be edited.

#### **R.2.4.4: Delete Labs**

**DESCRIPTION:** Faculty can delete existing lab.

**INPUT:** Click on delete button.

**OUTPUT:** A existing lab will be deleted.

### **R.2.5: Manage Assignments**

#### **R.2.5.1: View Assignments**

**DESCRIPTION:** Faculty can view all the assignments which is created by him/her related to the lab.

**INPUT:** Click on view assignments button

**OUTPUT:** List of all assignments will be appeared.

#### **R.2.5.2: Create Assignments**

**DESCRIPTION:** Faculty can create new assignment related to the lab.

**INPUT:** Assignment-No & Assignment-End-Date.

**OUTPUT:** A new assignment will be created.

#### **R.2.5.3: Edit Assignments**

**DESCRIPTION:** Faculty can edit existing assignment.

**INPUT:** Assignment-No & Assignment-End-Date.

**OUTPUT:** Existing assignment will be edited.

#### **R.2.5.4: Delete Assignments**

**DESCRIPTION:** Faculty can delete existing assignment.

**INPUT:** Click on delete button.

**OUTPUT:** A existing assignment will be deleted.

### **3.3 Other Non-functional Requirements**

#### **1. Performance**

The system must be interactive and the delays involved must be less. So, in every action-response of the system, there are no immediate delays. In case of opening App components, of popping error messages and saving the settings or sessions there is delay much below 3 seconds.

#### **2. Safety**

User details should be securely stored to the server. The main security concern is for user account hence proper login mechanism should be used to avoid hacking.

#### **3. Reliability**

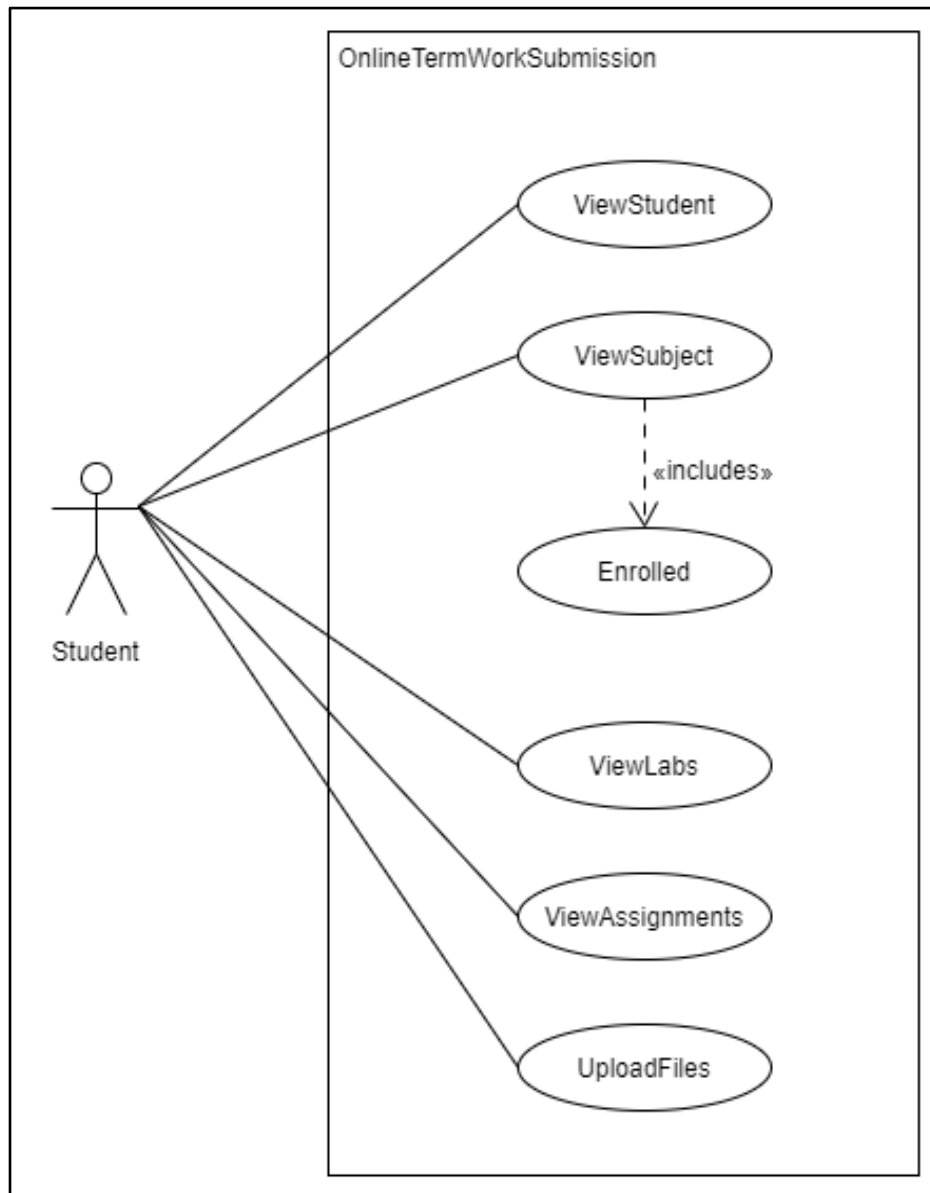
As the system provides the right tools for discussion, problem solving it must be made sure that the system is reliable in its operations and for securing the sensitive details.

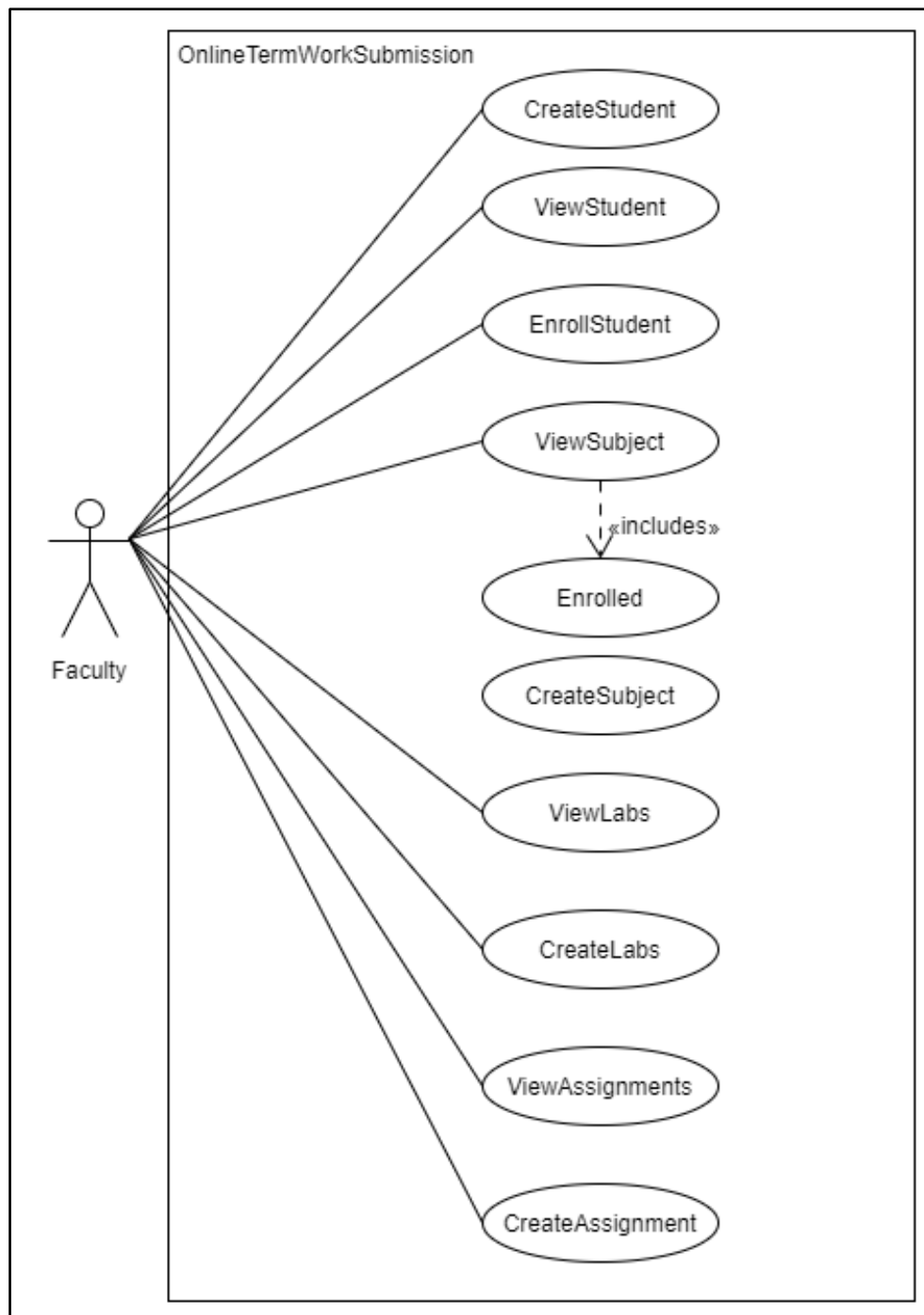
#### **4. Database**

System requires to access user's data fast to maintain the performance.

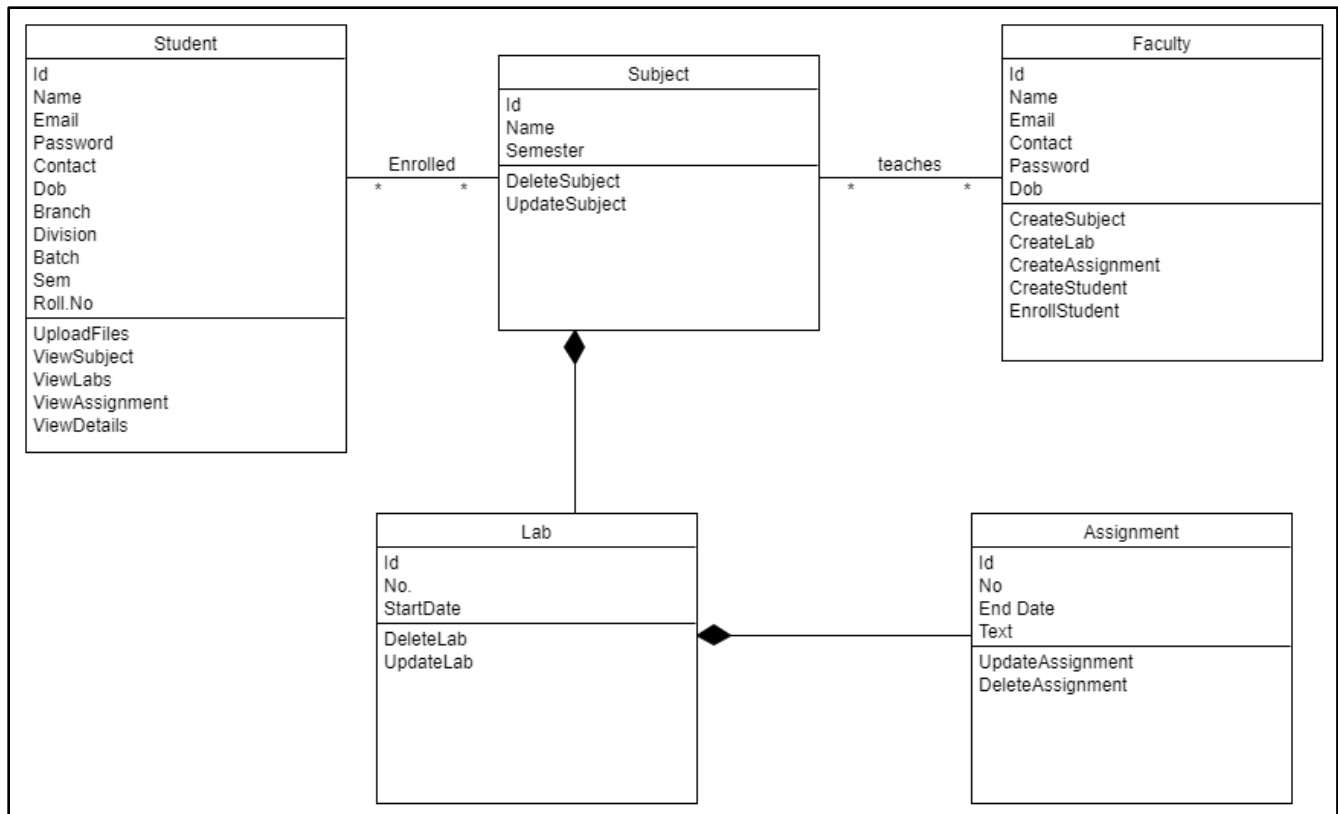
## 4). Design

### 4.1 Use Case Diagram



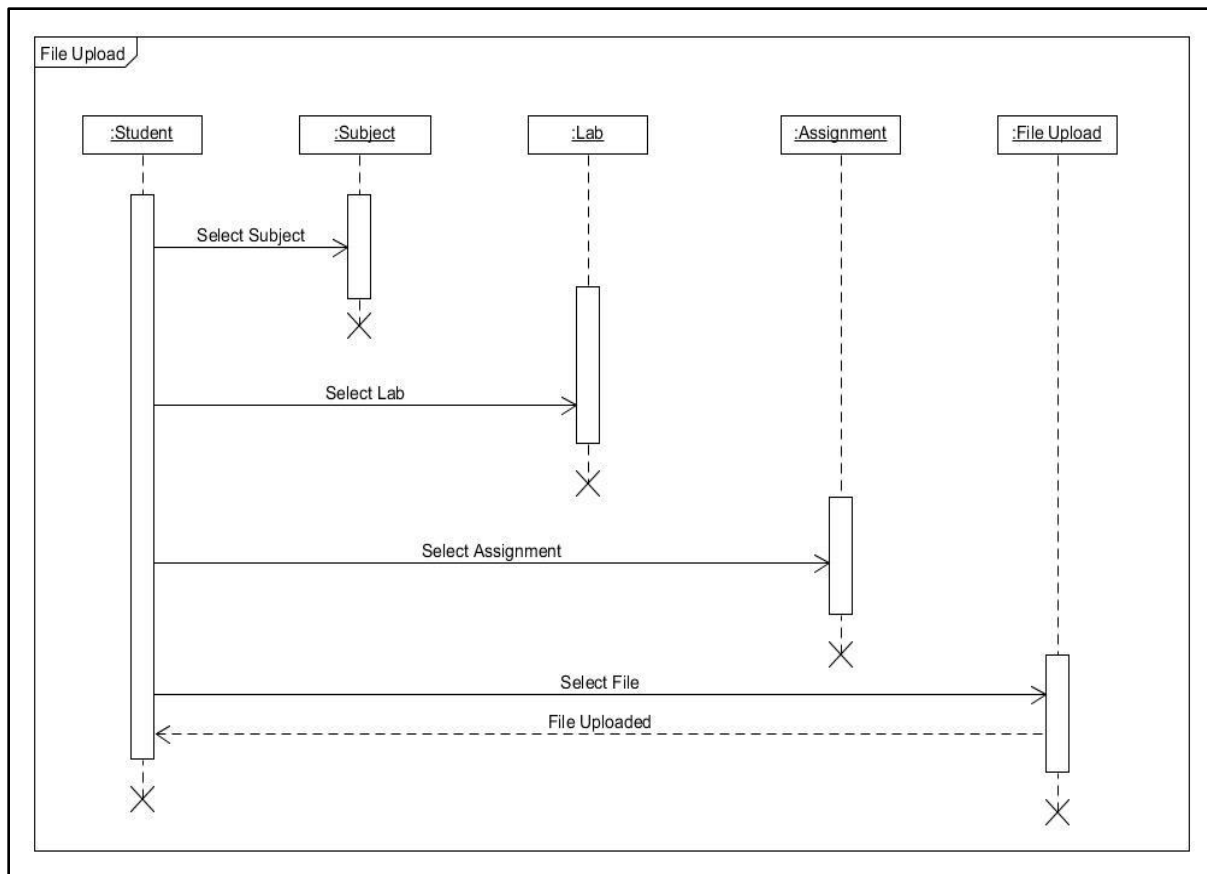


## 4.2 Class Diagram

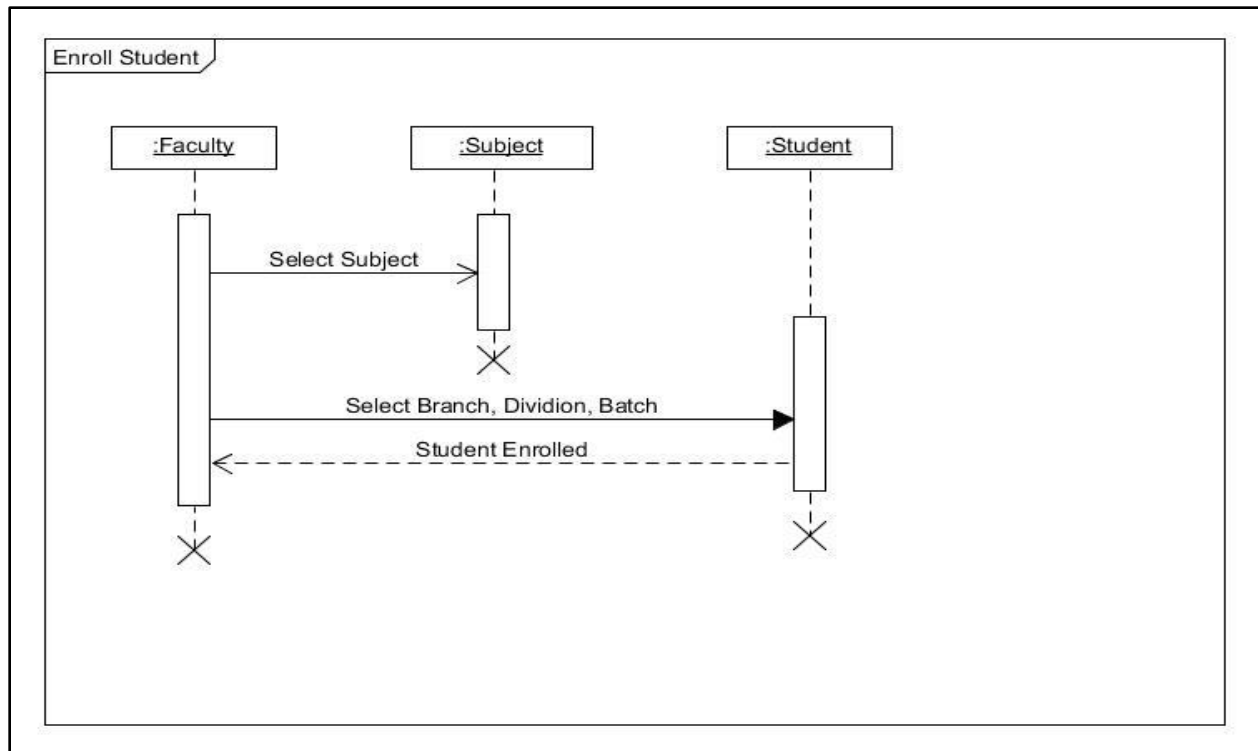




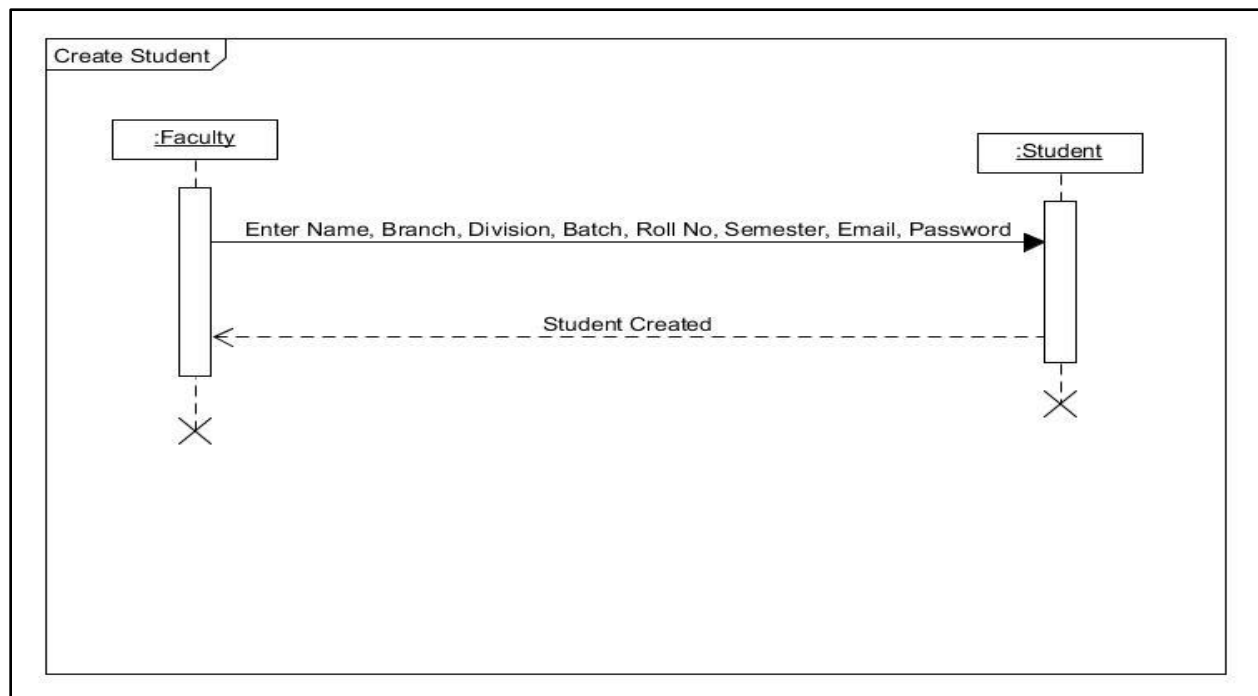
### 4.3 Sequence Diagram



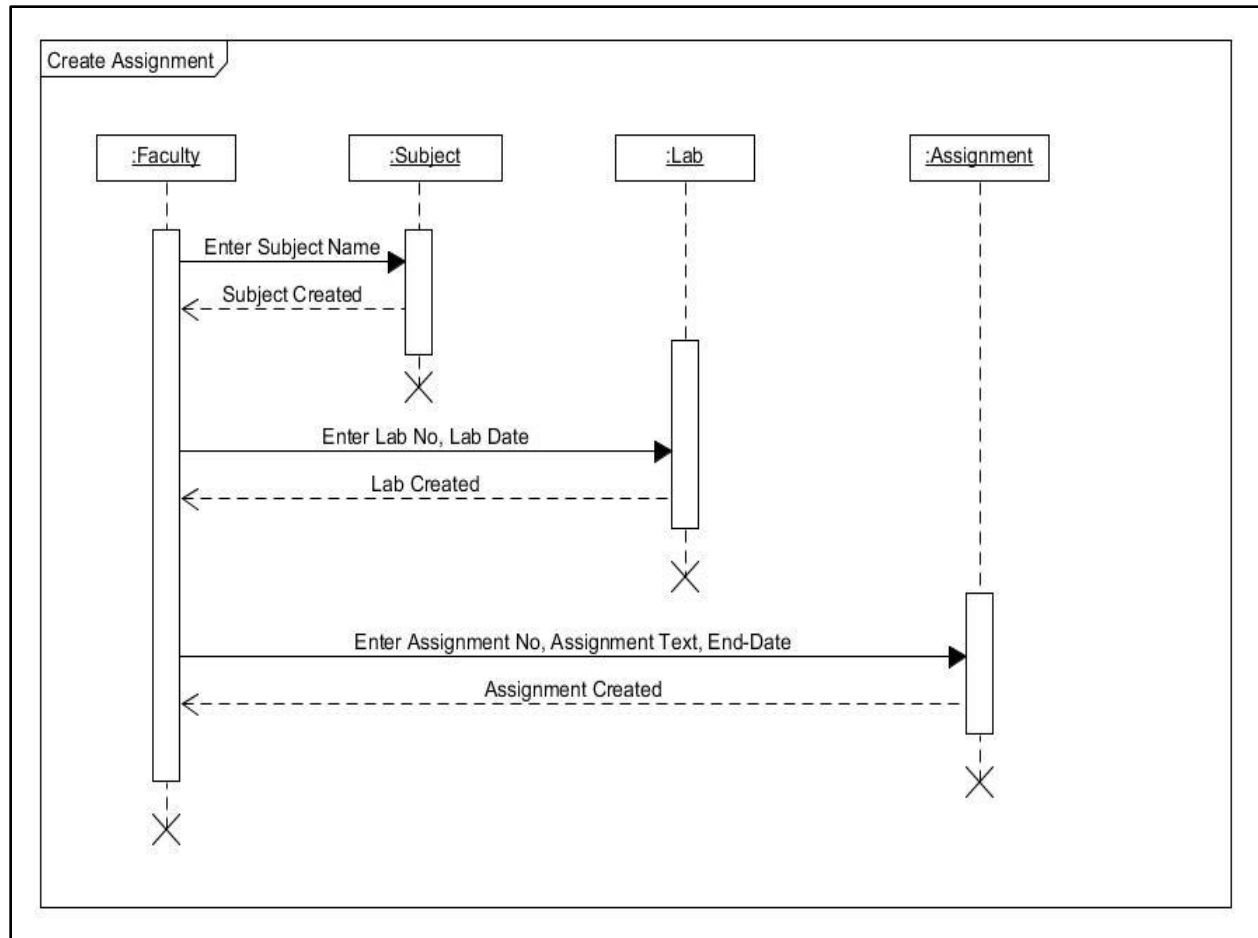
**File Upload from Student Module**



**Enroll Student from Faculty Module**



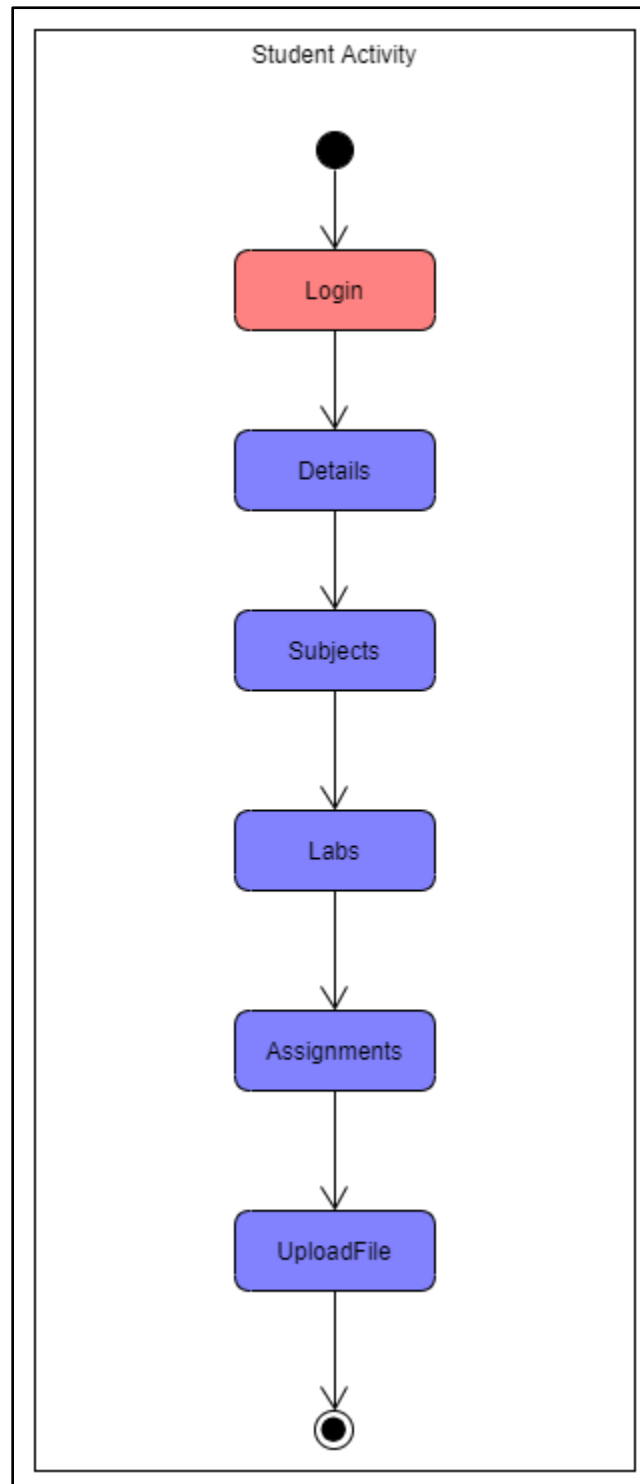
**Create Student from Faculty Module**



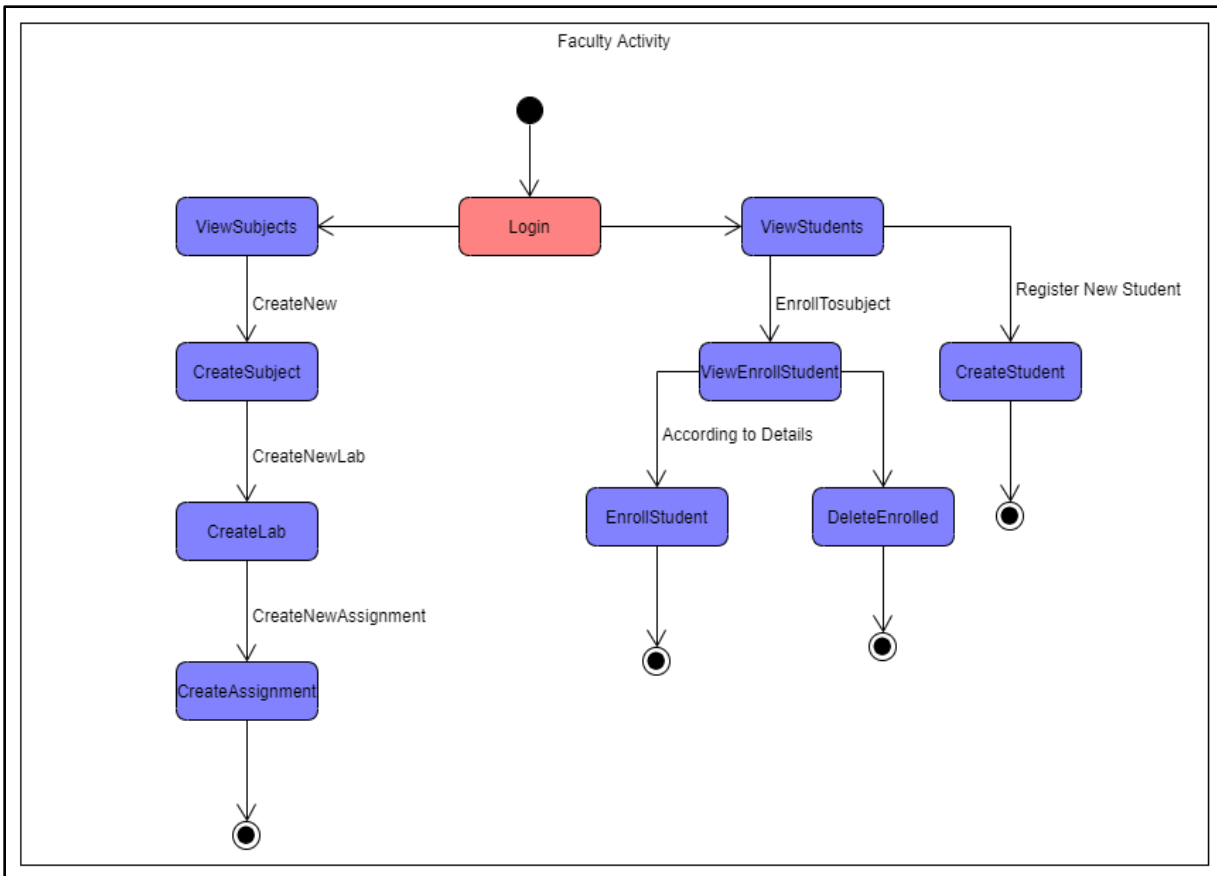
**Create Assignment from Faculty Module**

## 4.4 Activity Diagram

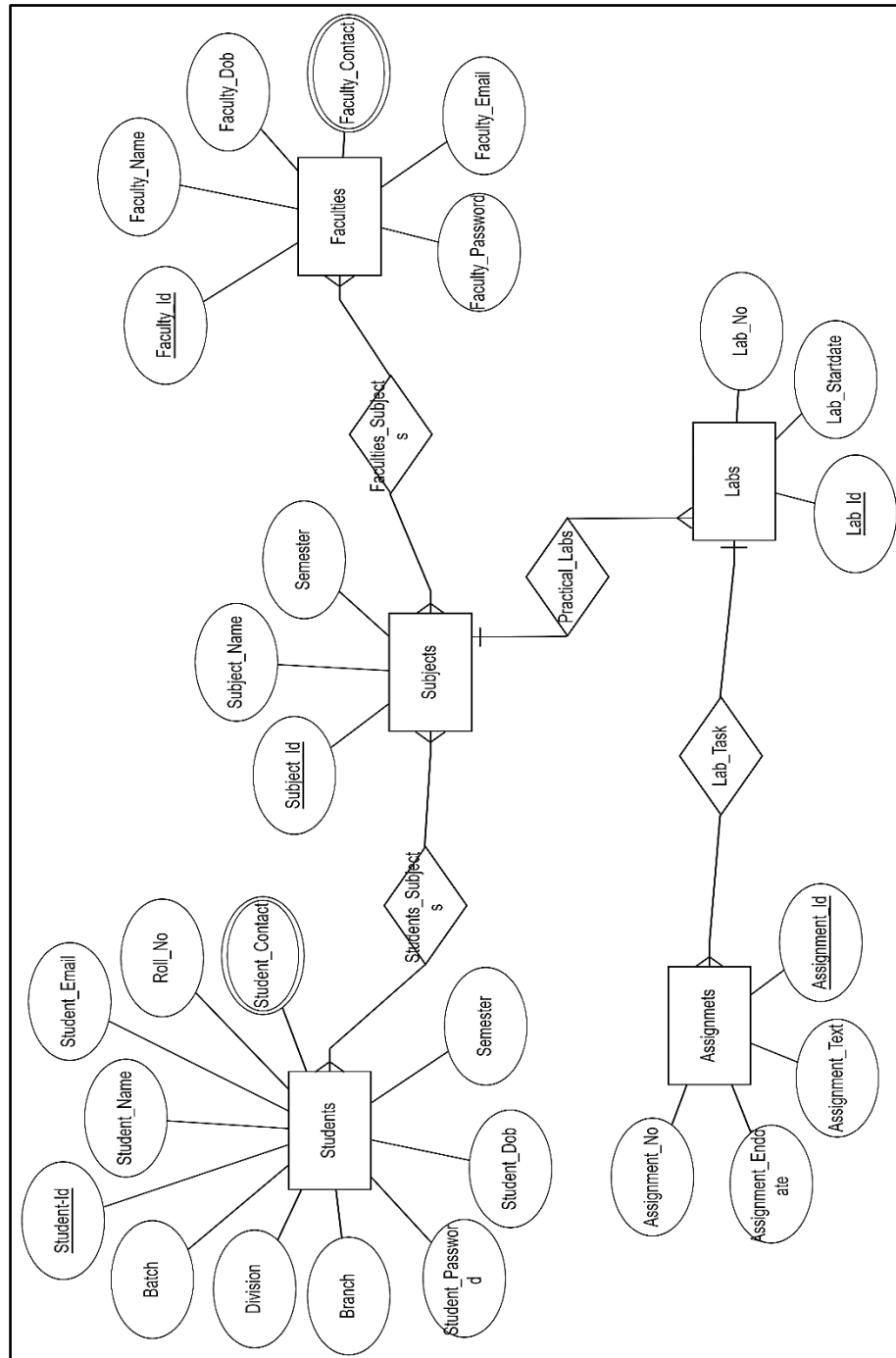
### STUDENT ACTIVITY:



## FACULTY ACTIVITY:



## 4.5 E-R Diagram



## 4.6 Data Dictionary

| Student |                  |           |       |          |        |       |                  |               |
|---------|------------------|-----------|-------|----------|--------|-------|------------------|---------------|
| Sr. No  | Field Name       | Data Type | Width | Required | Unique | PK/FK | Referenced Table | Description   |
| 1       | Student_Id       | Int       | 10    | Yes      | Yes    | PK    | -                | User id       |
| 2       | Student_Name     | Varchar   | 20    | Yes      | No     | -     | -                | Full name     |
| 3       | Student_Email    | Varchar   | 30    | Yes      | Yes    | -     | -                | Email id      |
| 4       | Student_Password | Numeric   | 8     | Yes      | No     | -     | -                | Phone number  |
| 5       | Student_Dob      | Date      | 10    | Yes      | No     | -     | -                | Date of birth |
| 6       | Student_Contact  | Numeric   | 10    | Yes      | No     |       |                  | Phone no.     |
| 7       | Branch           | Varchar   | 10    | Yes      | No     |       |                  | Branch Name   |
| 8       | Semester         | Int       | 2     | Yes      | No     |       |                  | Semester No   |
| 9       | Division         | Varchar   | 5     | Yes      | No     |       |                  | Division Name |
| 10      | Batch            | Varchar   | 5     | Yes      | No     |       |                  | Batch Name    |
| 11      | Roll_No          | Int       | 5     | Yes      | Yes    |       |                  | Roll Number   |

| Faculty |                  |           |       |          |        |       |                 |               |
|---------|------------------|-----------|-------|----------|--------|-------|-----------------|---------------|
| Sr. No  | Field Name       | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description   |
| 1       | Faculty_Id       | Int       | 10    | Yes      | Yes    | PK    | -               | Faculty Id    |
| 2       | Faculty_Name     | Varchar   | 30    | Yes      | Yes    | -     | -               | Faculty Name  |
| 3       | Faculty_Email    | Varchar   | 30    | Yes      | Yes    | -     | -               | Faculty Email |
| 4       | Faculty_Password | Numeric   | 8     | Yes      | Yes    | -     | -               | Password      |
| 5       | Faculty_Contact  | Numeric   | 10    | No       | Yes    | -     | -               | Phone No.     |
| 6       | Faculty_Dob      | Date      | -     | Yes      | No     | -     | -               | Date of Birth |

| Subject |              |           |       |          |        |       |                 |              |
|---------|--------------|-----------|-------|----------|--------|-------|-----------------|--------------|
| Sr. No  | Field Name   | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description  |
| 1       | Subject_Id   | Int       | 10    | Yes      | Yes    | PK    | -               | Subject Id   |
| 2       | Subject_Name | Varchar   | 30    | Yes      | Yes    | -     | -               | Subject Name |
| 3       | Semester     | Int       | 2     | YES      | No     | -     | -               | Semester No. |

| Lab    |               |           |       |          |        |       |                 |                   |
|--------|---------------|-----------|-------|----------|--------|-------|-----------------|-------------------|
| Sr. No | Field Name    | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description       |
| 1      | Lab_Id        | Int       | 10    | Yes      | Yes    | PK    | -               | Lab Id            |
| 2      | Lab_No        | Int       | 2     | Yes      | Yes    | -     | -               | Lab No.           |
| 3      | Lab_Startdate | Date      | -     | Yes      | Yes    | -     | -               | Lab Starting date |
| 4      | Subject_Id    | Int       | 10    | Yes      | Yes    | FK    | Subject         | Subject Id        |

| Assignment |                    |           |       |          |        |       |                 |                         |
|------------|--------------------|-----------|-------|----------|--------|-------|-----------------|-------------------------|
| Sr. No     | Field Name         | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description             |
| 1          | Assignment_Id      | Int       | 10    | Yes      | Yes    | PK    | -               | Assignment Id           |
| 2          | Assignment_No      | Int       | 2     | Yes      | Yes    | -     | -               | Assignment No           |
| 3          | Assignment_Text    | Varchar   | 200   | Yes      | No     | -     | -               | Description             |
| 4          | Assignment_Enddate | Date      | -     | Yes      | No     | -     | -               | Last Date of submission |
| 5          | Lab_Id             | Int       | 10    | Yes      | Yes    | FK    | Lab             | Lab Id                  |

| StudentSubjects |            |           |       |          |        |       |                 |             |
|-----------------|------------|-----------|-------|----------|--------|-------|-----------------|-------------|
| Sr. No          | Field Name | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description |
| 1               | Subject_Id | Int       | 10    | Yes      | Yes    | FK    | Subject         | Subject Id  |
| 2               | Student_Id | Int       | 10    | Yes      | Yes    | FK    | Student         | Student Id  |

| FacultySubjects |            |           |       |          |        |       |                 |             |
|-----------------|------------|-----------|-------|----------|--------|-------|-----------------|-------------|
| Sr. No          | Field Name | Data Type | Width | Required | Unique | PK/FK | Reference Table | Description |
| 1               | Subject_Id | Int       | 10    | Yes      | Yes    | FK    | Subject         | Subject Id  |
| 2               | Faculty_Id | Int       | 10    | Yes      | Yes    | FK    | Faculty         | Faculty Id  |



## 5). Implementation Details

---

### **Login Module**

This module takes users credentials and then verifies it with registered users, if user is not registered the invalid credentials error will be shown else if they match with database then user will be logged in.

**Input:** User Credentials.

**Output:** Logging User.

**Processing:** Verifying user credentials with database.

### **Student Module**

This module is accessed only by authenticated student. It is student page. Students can view their subjects, labs & assignments. It provides students to upload their term work on faculty side local machine before end date of the submission.

**Input:** User Selection.

**Output:** Corresponding Response.

### **Faculty Module**

This module is accessed only by authenticated faculty. It is faculty page. Faculties can manage students, subjects, labs & assignments. It provides faculty to create, update or delete students, subjects, labs & assignments. Faculty can enrol students with subjects according to their branch, division & batch.

**Input:** User Selection.

**Output:** Corresponding Response.

## 6). Testing

---

### **6.1: Testing Methods**

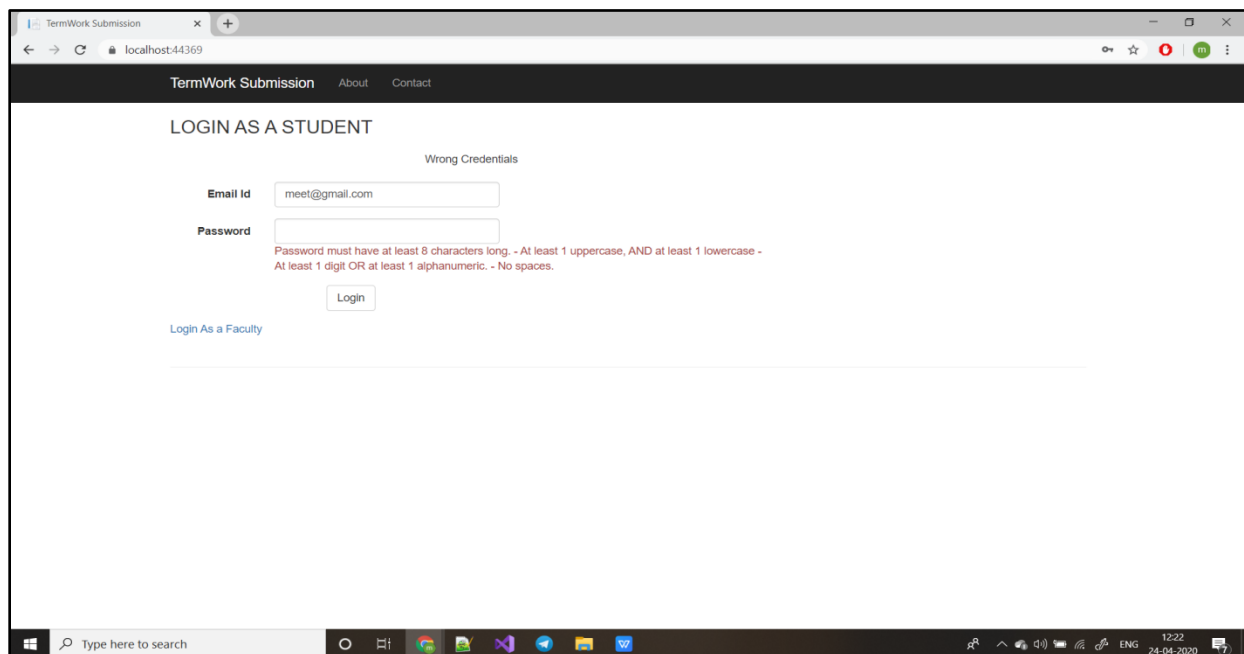
We have performed Black-box testing for the testing purpose.

### **6.2: Test Cases**

For Login:

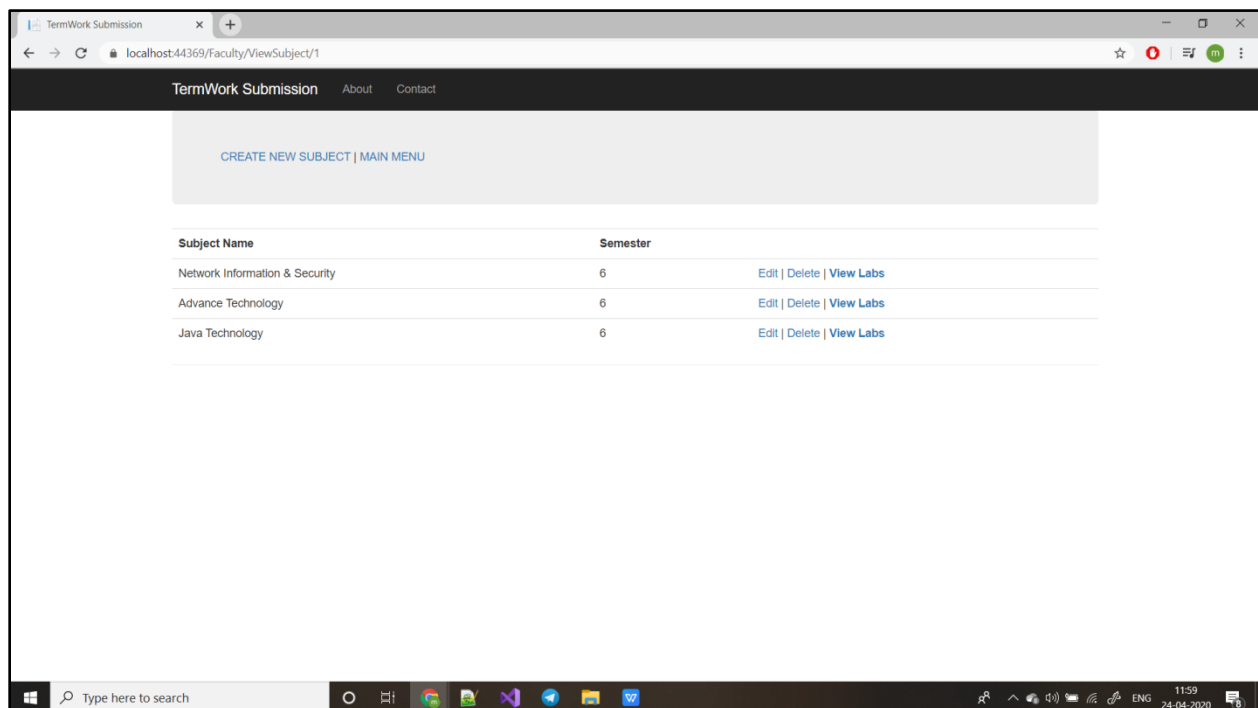
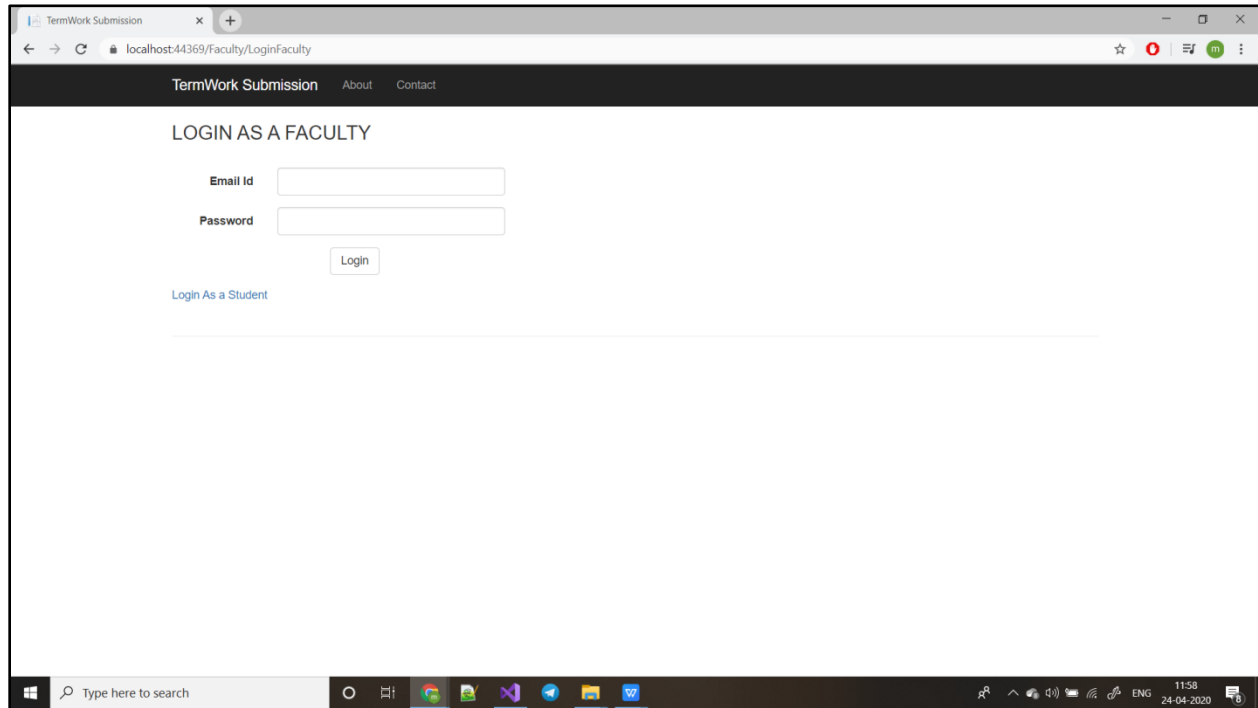
There are validations such as every field is required and respective validations for every field, suppose Contact number is less than 10 digits then error comes.

**LOGIN:** If credentials are invalid then error message is shown.



## 7). Screenshots

### Faculty Module



TermWork Submission

localhost:44369/Faculty/ViewStudent/1

TermWork Submission About Contact

CREATE NEW STUDENT | SELECT STUDENTS TO ENROLL SUBJECTS | MAIN MENU

| Roll No | Student Name      | Branch | Semester | Division | Batch | Email Id                     | Phone Number | Date Of Birth | Password                 |
|---------|-------------------|--------|----------|----------|-------|------------------------------|--------------|---------------|--------------------------|
| 1       | Chintal Jain      | CE     | 6        | C        | C1    | chintu@gmail.com             | 9639639632   | 14-04-2020    | Chintu@123 Edit   Delete |
| 3       | Aatish Caudhari   | CE     | 6        | C        | C1    | aatishc@gmail.com            | 9696969696   | 14-04-2020    | Aatish@123 Edit   Delete |
| 12      | Parth Baudhanwala | CE     | 6        | C        | C1    | parthbaudhanwala45@gmail.com | 9879879879   | 08-10-1999    | Parth@123 Edit   Delete  |
| 17      | Meet Charola      | CE     | 6        | C        | C2    | meet@gmail.com               | 9898989898   | 09-03-2020    | Meet@123 Edit   Delete   |
| 18      | Jalmin Chauhan    | CE     | 6        | C        | C2    | jaimin@gmail.com             | 9870062130   | 04-03-2020    | Jalmin@123 Edit   Delete |
| 22      | Harsh Kelawala    | CE     | 6        | C        | C3    | harsh@gmail.com              | 9870062130   | 29-02-2020    | Harsh@123 Edit   Delete  |
| 25      | Monil Modi        | CE     | 6        | C        | C3    | monil@gmail.com              | 9876543210   | 01-03-2020    | Monil@123 Edit   Delete  |

Type here to search

ENG 1200 24-04-2020

TermWork Submission

localhost:44369/Faculty/SelectStudents/1

TermWork Submission About Contact

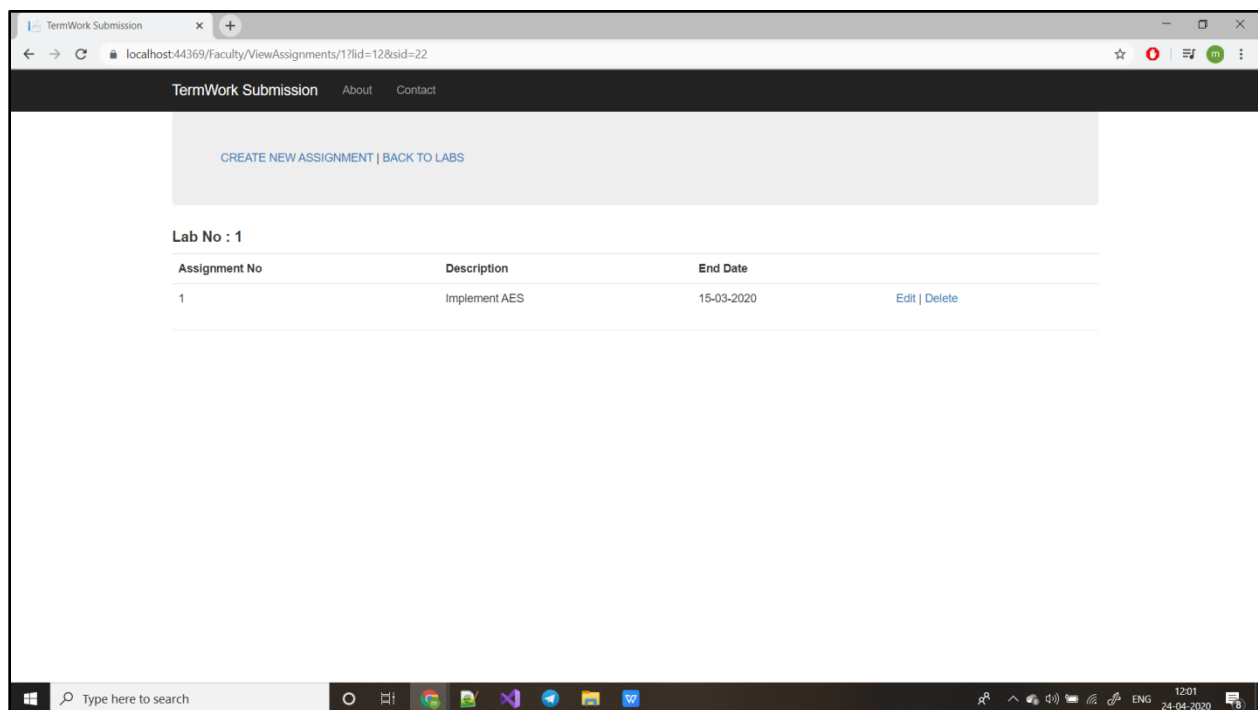
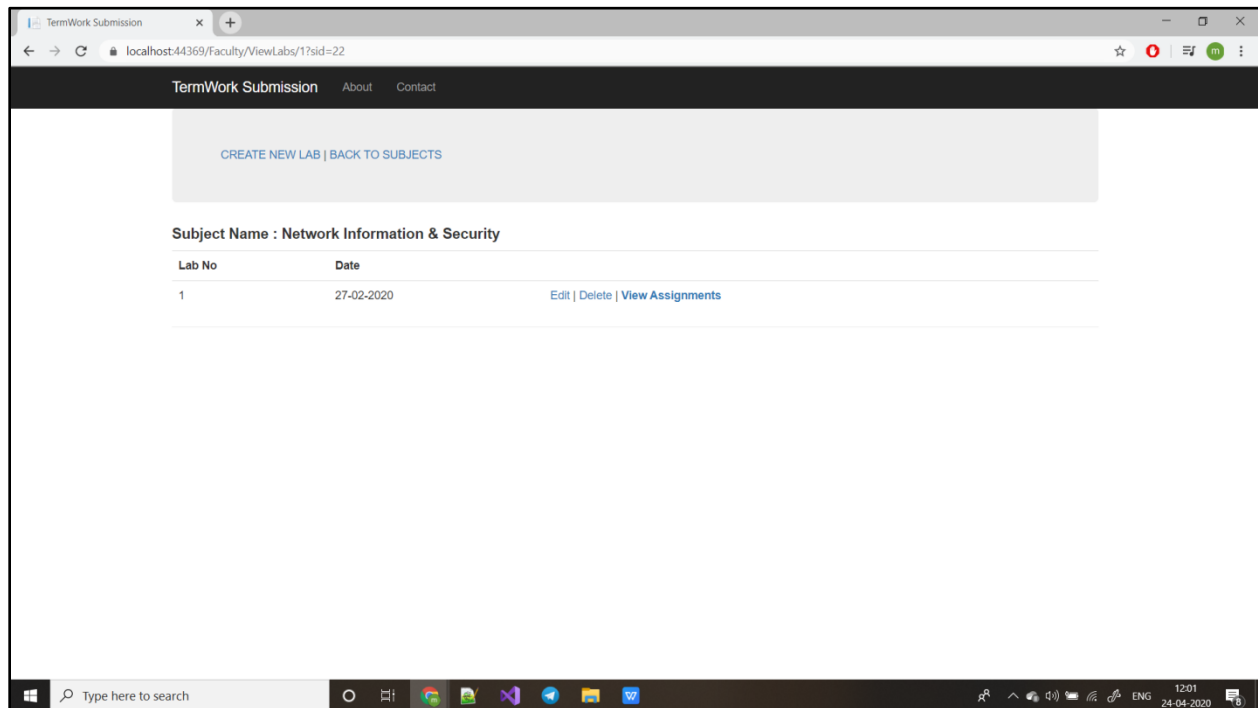
BACK TO STUDENTS LIST

| Subject Name                   | Semester |
|--------------------------------|----------|
| Network Information & Security | 6        |
| Advance Technology             | 6        |
| Java Technology                | 6        |

View Enrolled Students

Type here to search

ENG 1200 24-04-2020



# Student Module

The screenshot shows a web browser window with the title 'TermWork Submission'. The address bar shows 'localhost:44369'. The page has a dark header with 'TermWork Submission', 'About', and 'Contact' links. The main content area is titled 'LOGIN AS A STUDENT'. It contains two input fields: 'Email Id' and 'Password'. Below these is a 'Login' button. There is also a link 'Login As a Faculty'.

TermWork Submission

About Contact

### LOGIN AS A STUDENT

Email Id

Password

Login

[Login As a Faculty](#)

The screenshot shows a web browser window with the title 'TermWork Submission'. The address bar shows 'localhost:44369/Student/ViewSubject/7'. The page has a dark header with 'TermWork Submission', 'About', and 'Contact' links. The main content area has a 'BACK TO DETAILS' button. Below it is a table with two columns: 'Subject Name' and 'Semester'. The table has one row with 'Advance Technology' and '6'. There is a 'View Labs' link next to the 'Semester' column.

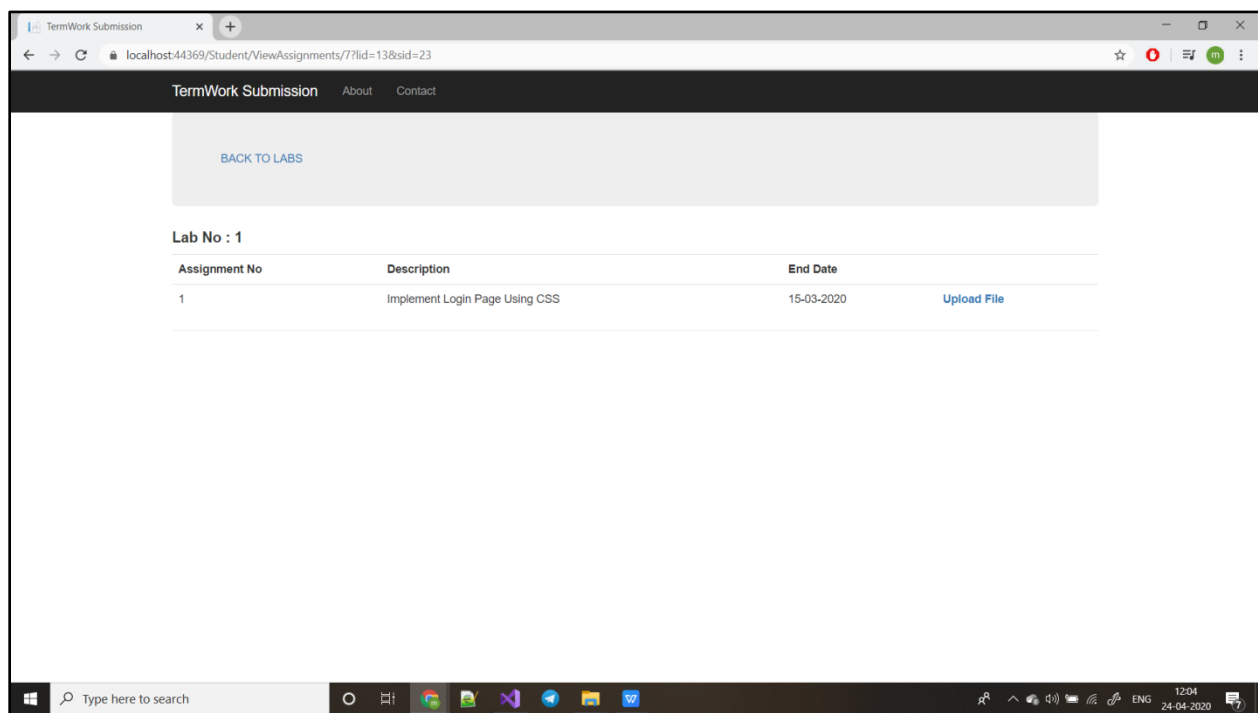
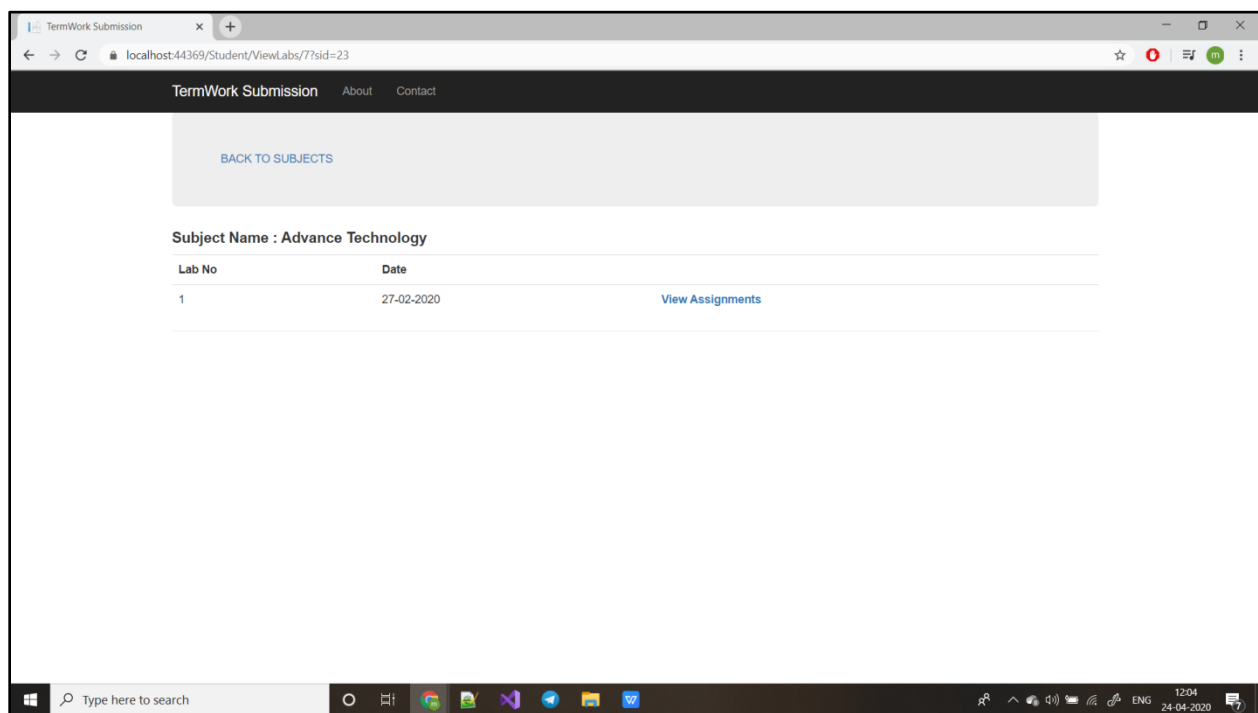
TermWork Submission

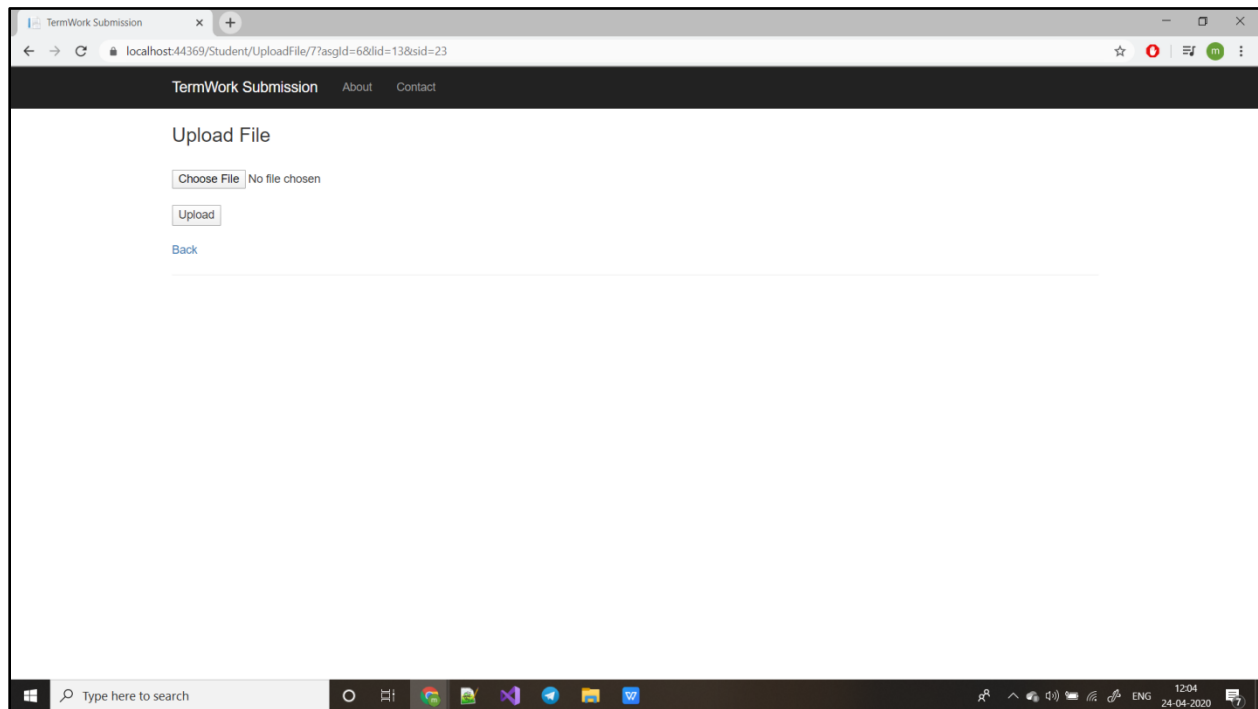
About Contact

[BACK TO DETAILS](#)

| Subject Name       | Semester |
|--------------------|----------|
| Advance Technology | 6        |

[View Labs](#)







8).

## Conclusion

---

The functionalities implemented in system after understanding all the system modules according to the requirements. Functionalities That are successfully implemented in the system are:

- ☐ User login containing all the necessary validation on field
- ☐ Logout
- ☐ User Authentication
- ☐ User Authorization
- ☐ Upload File
- ☐ Create, edit & delete student
- ☐ Enroll students & delete enrolled students related to subjects
- ☐ Create, edit & delete subject
- ☐ Create, edit & delete lab
- ☐ Create, edit & delete assignment

## 9). Limitations and Future Enhancements

---

The System has adequate scope for modification in future if it is necessary.

Development and launching of Mobile app and refining existing services and adding more service, System security, data security and reliability are the main feature.

In the existing system maximum 4MB (Because of by default setting from Microsoft visual studio credibility purpose) size of file can be uploaded, so it will be extended with the any size of file can be uploaded.

The API for the automated assessment can be added.

In the existing system there are only some selected branches & batches, so it will be extended to more branches & batches.

## 10). Reference / Bibliography

---

Following links and websites were referred during the development of this project.

<https://egov.ddit.ac.in>

<https://www.tutorialsteacher.com>

<https://www.c-sharpcorner.com>

<https://stackoverflow.com>

<https://docs.microsoft.com/en-us/dotnet/csharp>

<https://docs.microsoft.com/en-us/aspnet/mvc>