Software Requirements Specification
Version 2.0

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Online Academic Registration Portal

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1.0 **Introduction**

1.1 Purpose

The purpose of this document is to provide a comprehensive description of the intended objective and environment for an online academic registration portal. The document elaborates the features, interface, constraints and prerequisites of the same. It also enlists the working of the portal in real-time. The document is intended for both the stakeholders and the developers of the system.

1.2 Scope of Project

This software system will be an online student registration portal for an Academic Institute. The stakeholders for the project includes the students, the faculty and the staff personnel.
The portal will create a database for new students (which shall be catered to by the staff) along with maintaining and updating the course information for the existing students of the Institute. The portal is designed to effectively perform registration of a student by providing the suitable course list for a particular semester for a student of a particular branch and on subsequent completion of providing the required courses, send an approval request to the corresponding faculty in-charge.
It shall contain a student profile section which will show the registered courses of the current as well as the previous semesters and the list of available courses for the current semester. It shall also show the registration status for the current semester.
The faculty profile shall display the student registration query and options to approve or disapprove it.
The staff profile will contain options for maintaining and updating the student database.
Furthermore, the portal will contain links to redirect to pay library or mess dues (if applicable), display a fee paid check will shall show the current status of payment of semester/mess fee and also an option to change the password once logged in the portal.

1.3 Constraints

- The proposed student registration portal does not handle the registration of students with back logs
- Assurance of completion of prerequisite courses for the newly registered courses is not ensured
- The password if forgotten, has to be retrieved manually from the staff

1.4 Assumptions and Dependencies

- Semester and Mess fee payment are assumed to be handled by the staff and are not handled by the portal itself
- It is assumed that the staff has the mess and semester fee payment details of the students
- The mandatory and elective course list is provided by the corresponding faculty at the beginning of the semester
- The scenario of disapproval of the application will be handled manually and the software has no provision for re-registration online
- The staff will assign user name and a password initially for all the new students which can be changed by the student at a future time

- The elective courses will be made available to the staff in a yearly fashion, i.e only those electives will be made available to students which are permitted for the year they're studying in

1.5 Glossary

Term	Definition
Student	The person registering for a semester
Faculty	Authority assigned to approve/disapprove the registration query by a student
Staff	Authority assigned to work with the database as well as maintain the portal
Stakeholder	Person with an interest in a project with a role other than that of a developer

1.6 References

The existing student registration portal designed and developed by the related authorities of Indian Institute of Technology, Jodhpur.
The details of the project were discussed with Mr. Vinay Pratap Singh and Dr. Chiranjoy Chattopadhyay.

1.7 Overview of Document

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the Registration Portal. It describes the informal requirements and is used to establish a context for the technical requirements specification.
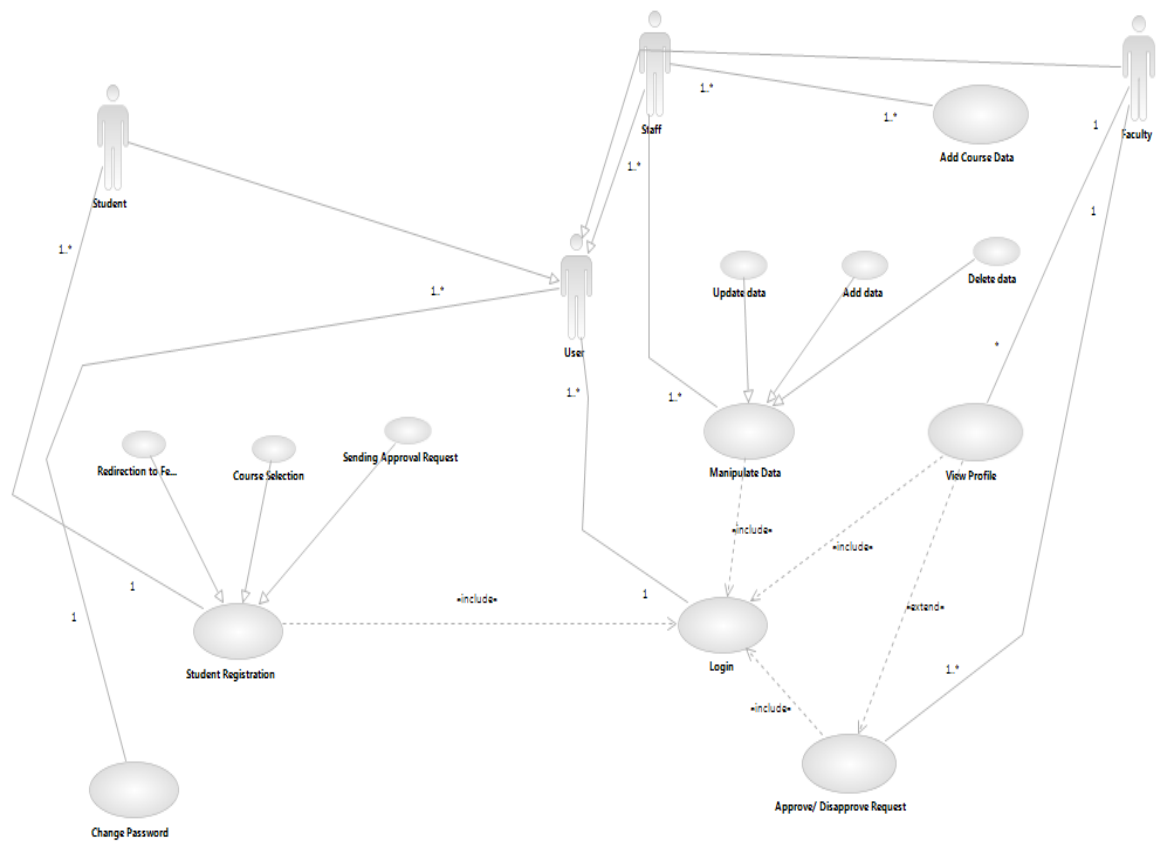
The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.
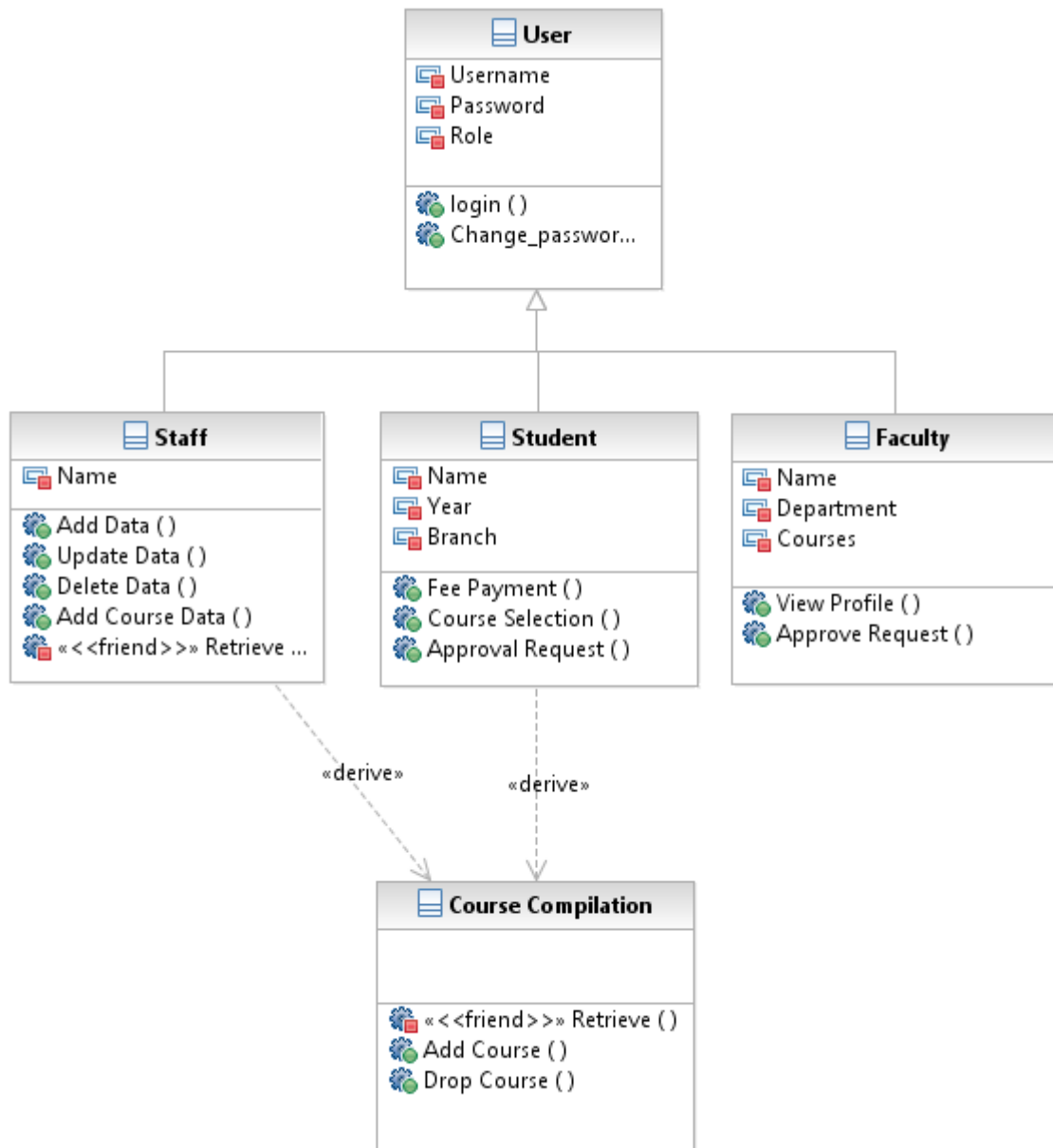
2.0 Overall Description

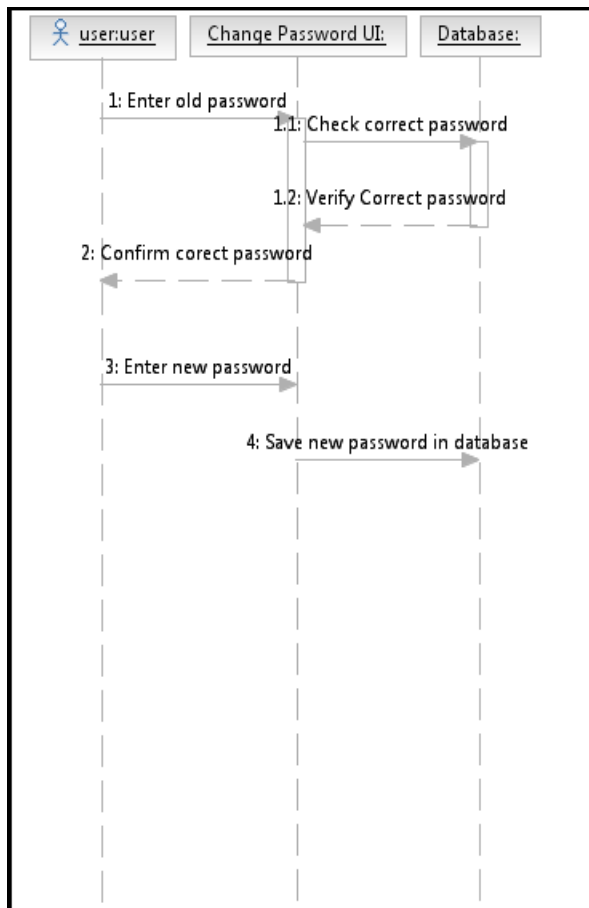## 2.1 System Environment

Use Case Diagram

Use Case Diagram

Class Diagram

User
- Username
- Password
- Role

- login ( )
- Change_passwor...

Staff
- Name

- Add Data ( )
- Update Data ( )
- Delete Data ( )
- Add Course Data ( )
- «<friend>>» Retrieve ...

Student
- Name
- Year
- Branch

- Fee Payment ( )
- Course Selection ( )
- Approval Request ( )

Faculty
- Name
- Department
- Courses

- View Profile ( )
- Approve Request ( )

«derive»   «derive»

Course Compilation

- «<<friend>>» Retrieve ( )
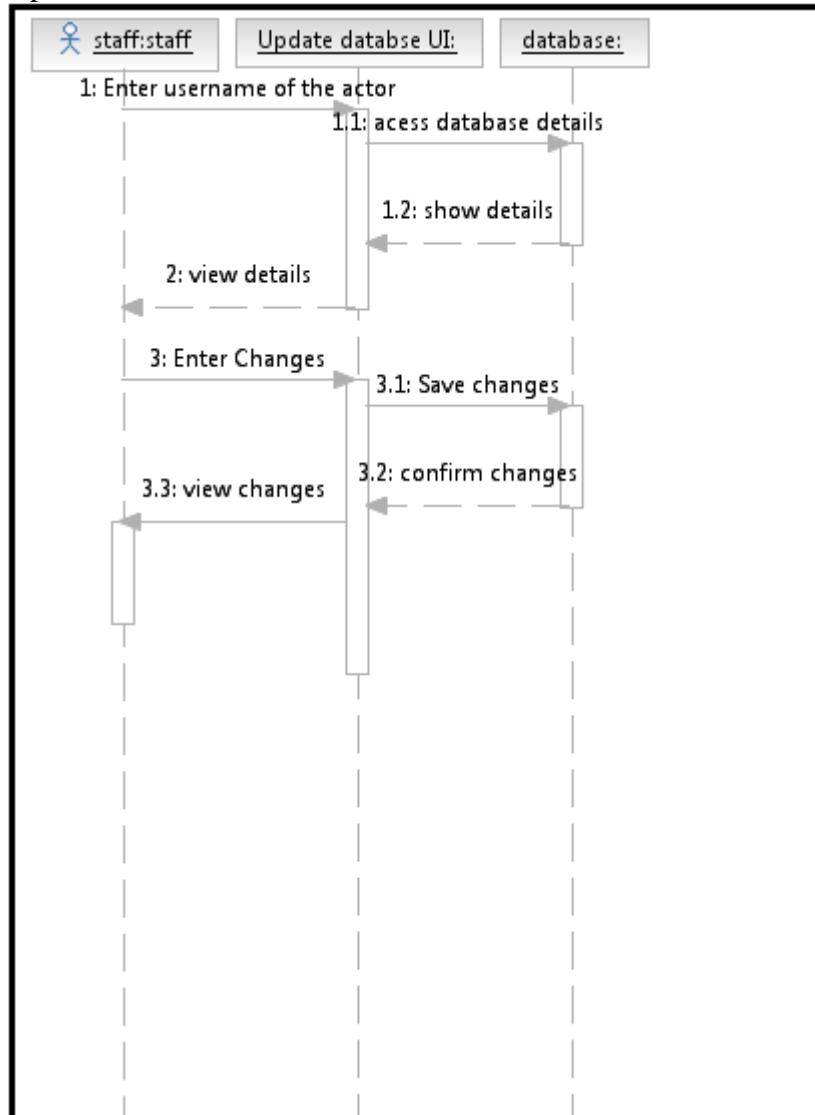- Add Course ( )
- Drop Course ( )

Class Diagram

Sequence Diagrams

1. Change Password

2. Update database

staff:staff   Update databse UI: database:

1: Enter username of the actor

1.1: acess database details

1.2: show details

2: view details

3: Enter Changes

3.1: Save changes

3.2: confirm changes

3.3: view changes

3. Fee payment

In the diagram:
- student:Student
- fee Payment UI:...
- fee Payment ...

1: Click on Fee Payment
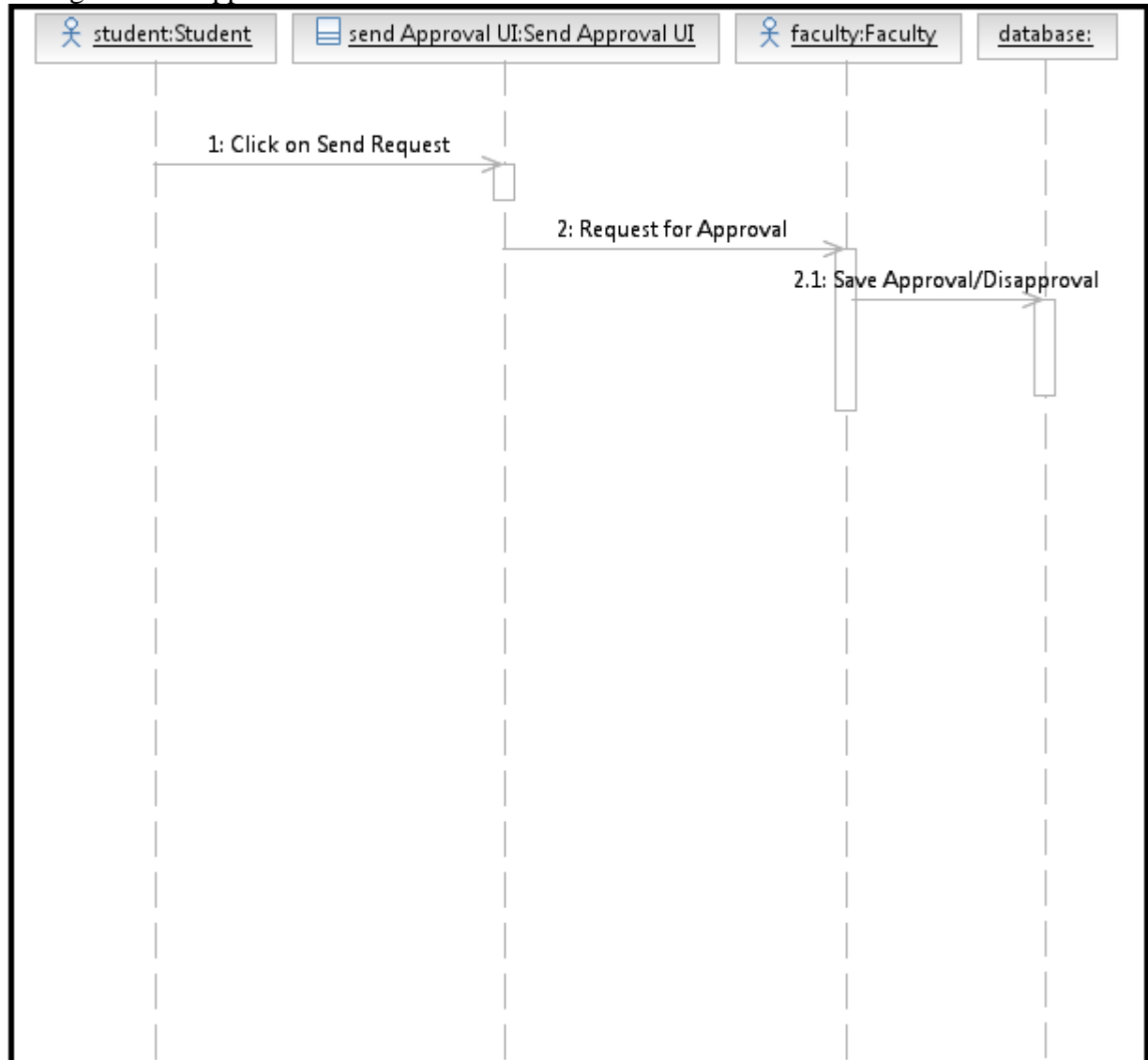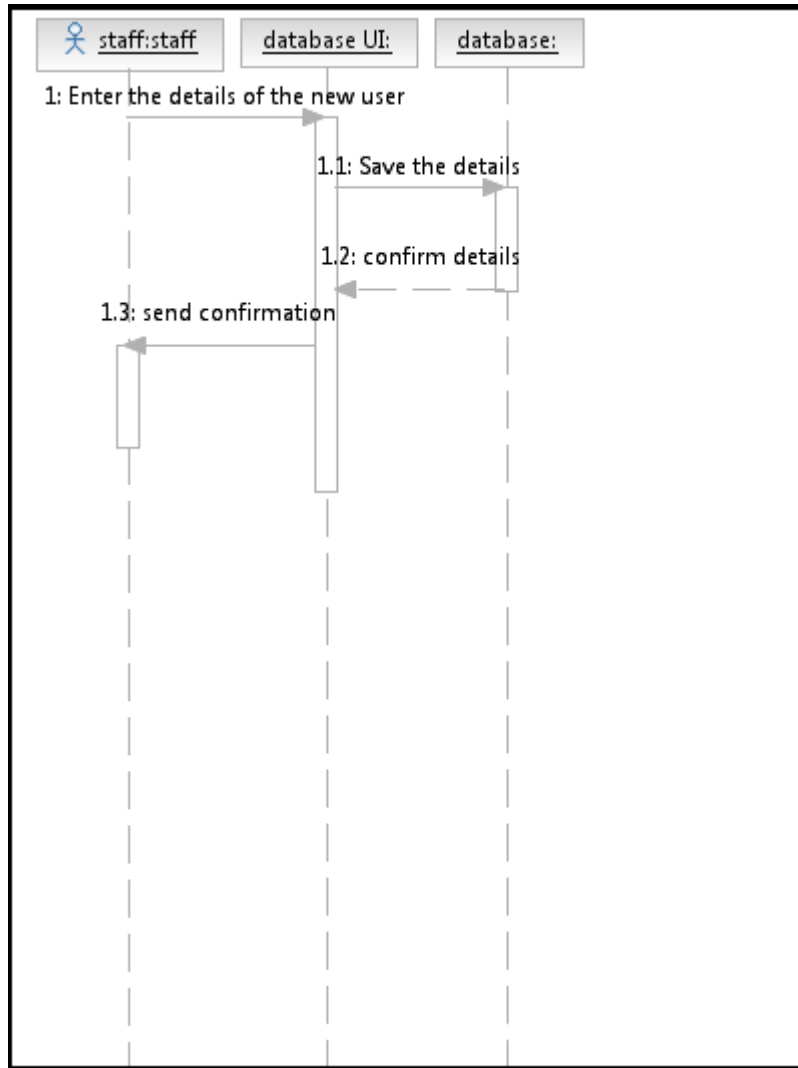1.1: Redirection to Payment Portal
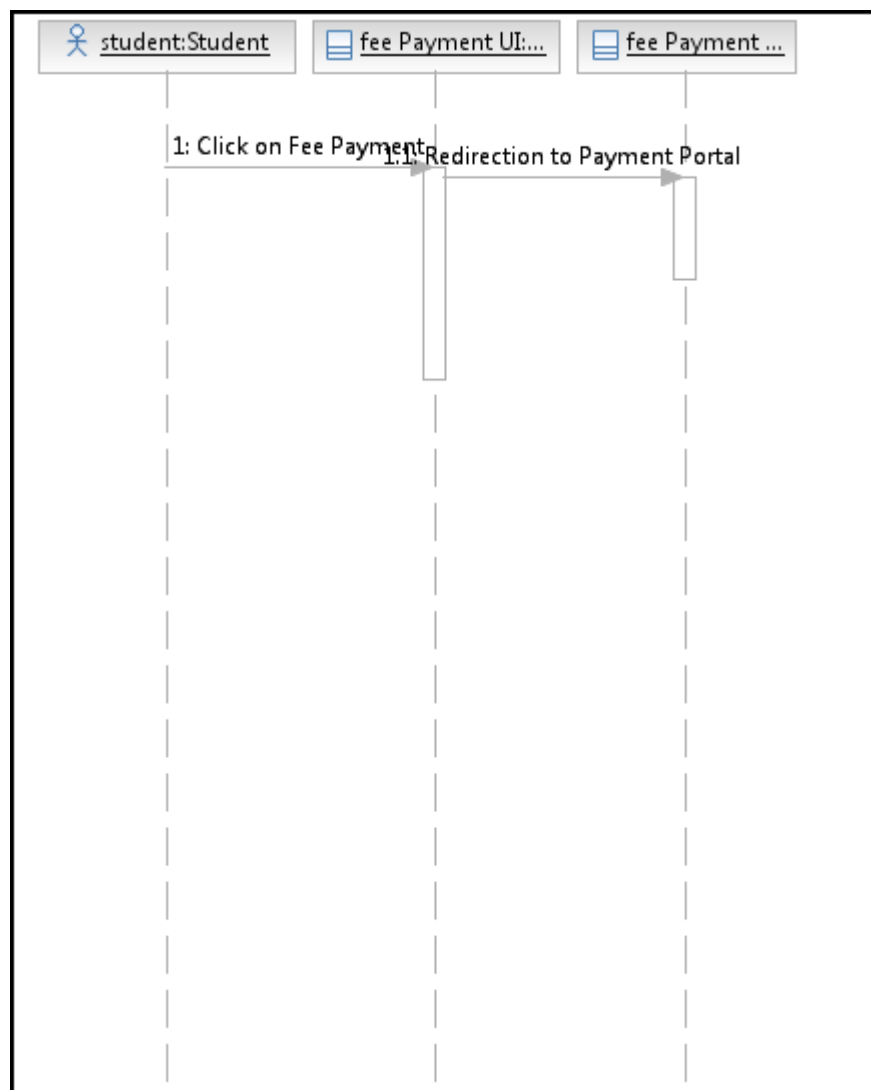
4. Course Selection
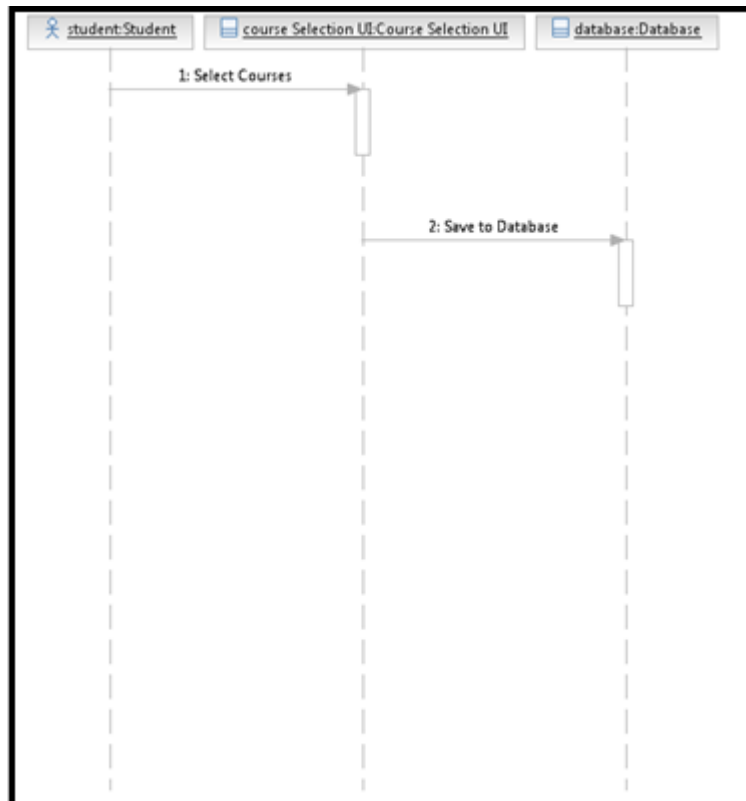
5. Registration Approval

6. Add in Database

staff:staff   database UI: database:

1: Enter the details of the new user

1.1: Save the details

1.2: confirm details

1.3: send confirmation

7. Update database

staff:staff | Update databse UI: | database:

1: Enter username of the actor

1.1: acess database details

1.2: show details

2: view details

3: Enter Changes

3.1: Save changes

3.2: confirm changes

3.3: view changes

8. Delete from database.

staff:staff   Delete databse UI: databse:

1: Enter Username of User

1.1: Find and delete entry from database

1.2: Confirm edits

2: Confirm edits

Activity Diagram

Student | Faculty

- Enter Username and Password
- Wrong details entered
- Correct details entered
- Select mandatory and elective courses
- Send request to faculty in charge
- Enter Username and Password
- Incorrect password
- Correct password entered
- Approve/Dissaprove
- Saved in Database

Change Password activity

- Enter Username and Password
- Incorrect Details
- Correct Details
- Click on Change Password
- Enter old Password
- Enter new Password
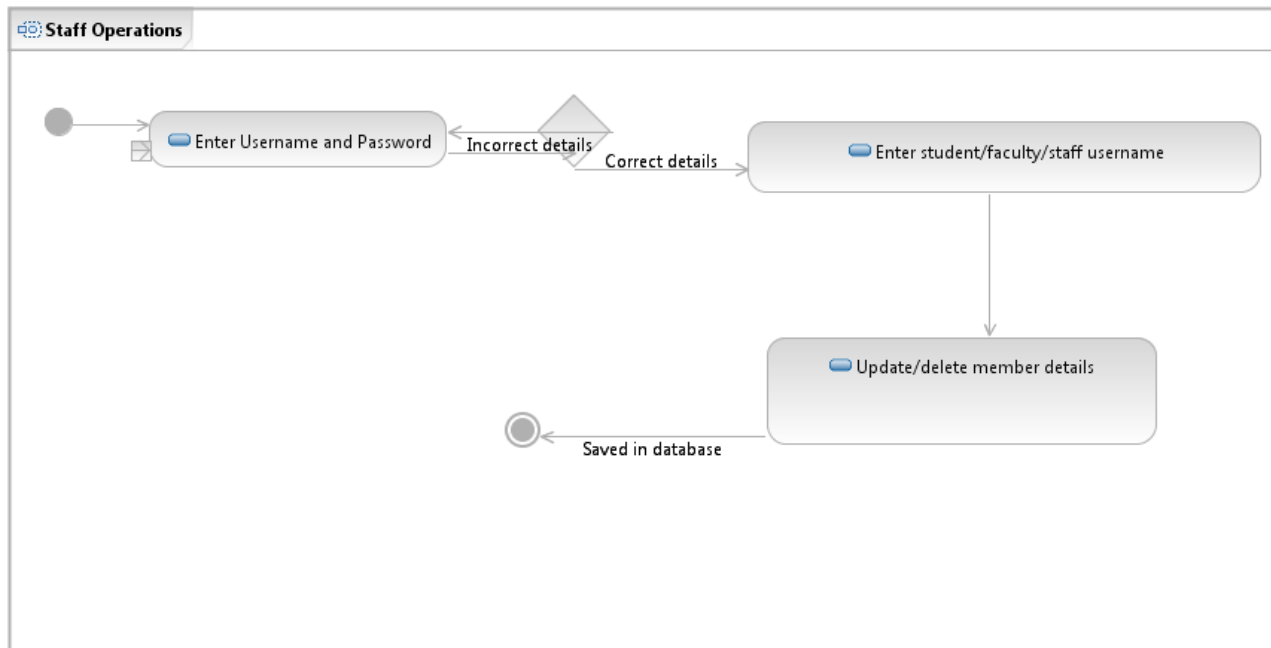- Saved in Database
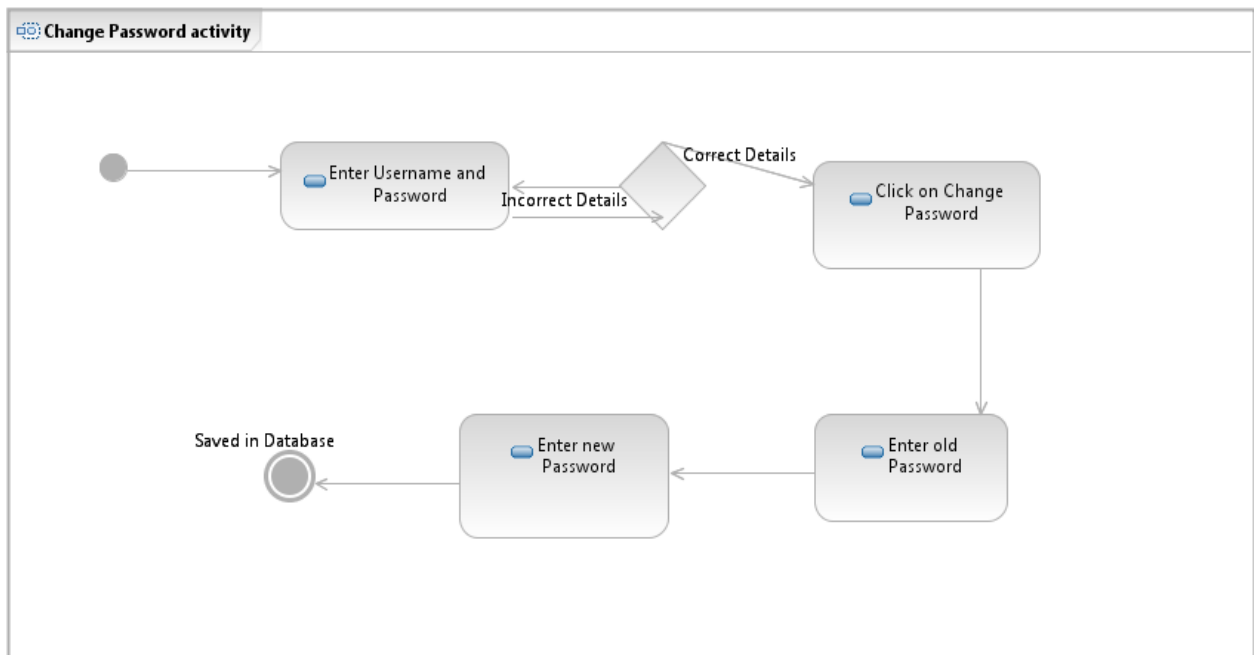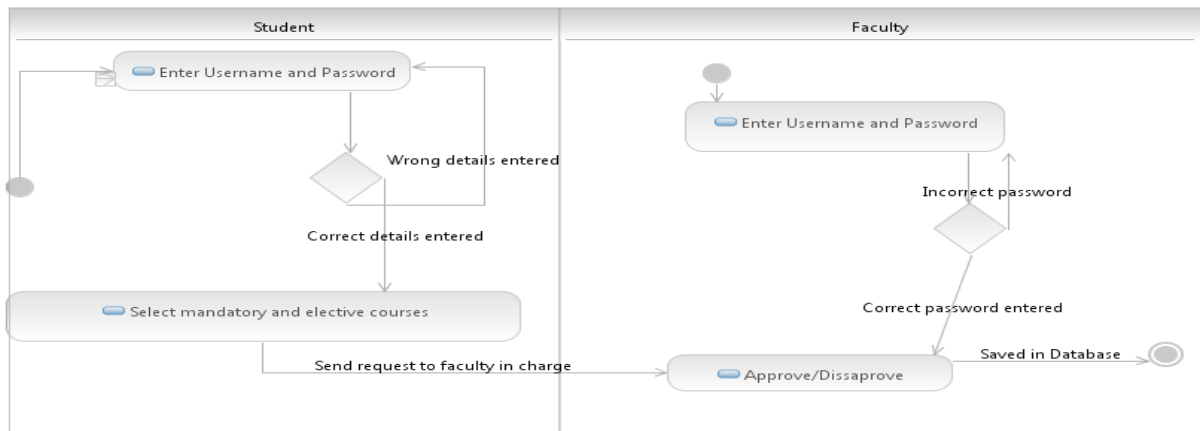
Activity Diagrams

2.2 Functional Requirements Specification

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2.2.1 Use case 1

Use case:
Diagram:
Brief Description
Initial Step-By-Step Description

2.3 User Characteristics

The user of this software system requires no particular technical skill other than to know how to navigate

through webpages with ease. Also, the user should be a student/faculty/staff of IIT Jodhpur.

2.4 Non-Functional Requirements

3.0 <u>Requirements Specification</u>

3.1 Functional Requirements

3.1.1 Student/Staff/Faculty: Log In

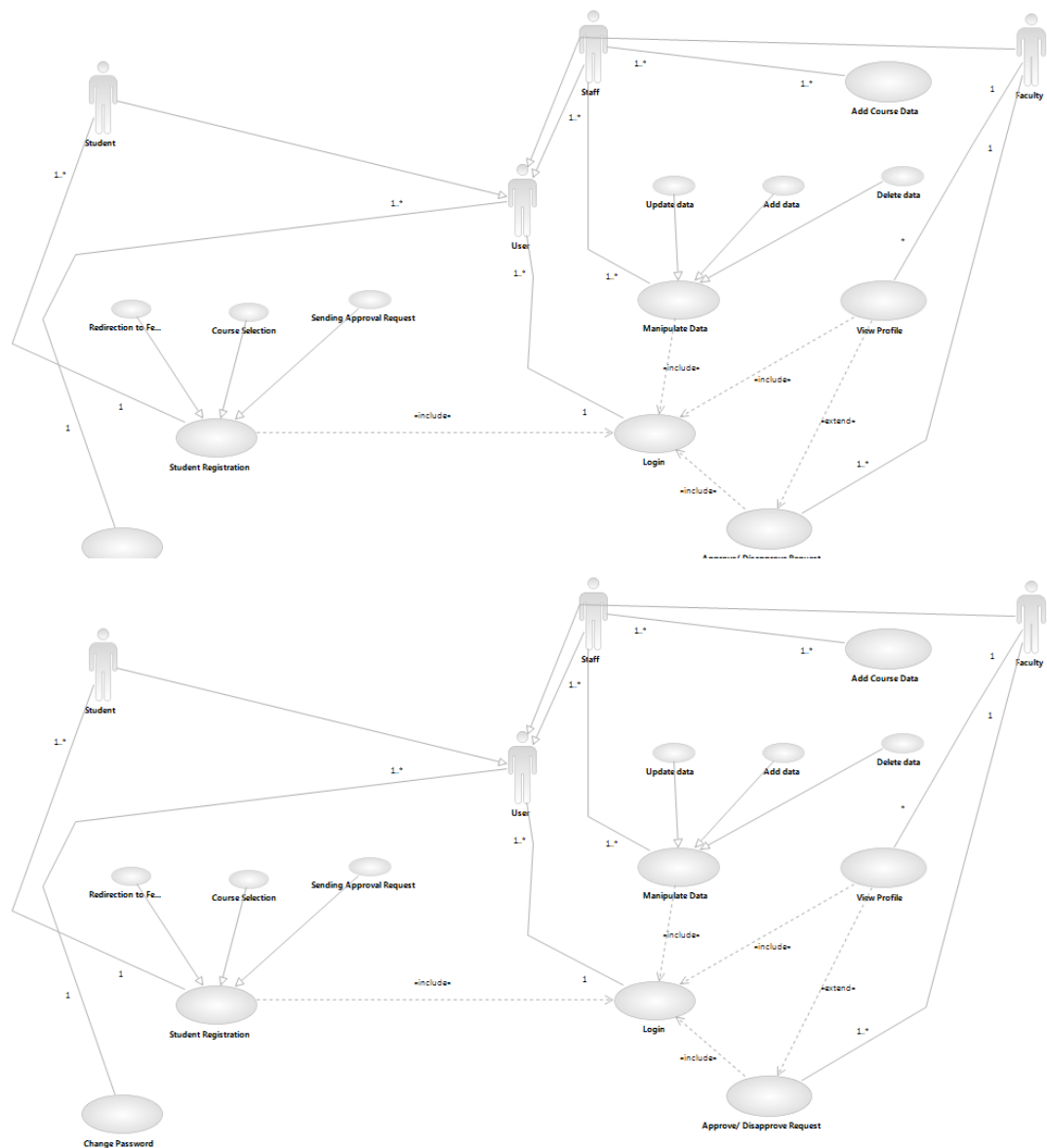| Use Case Name	Log In
Trigger	The user clicks on the *Log In* button
Precondition	The user should enter the valid log in details
Basic Path	1. The user enters the log in details 2. The user clicks on the *Log In* button 3. The credentials entered are checked and if validated, the user is logged in the system
Alternative Paths	1. If in step 1 incorrect information is entered, an error is issued and the user is requested to re-enter the details
Post-Condition	The user is logged in the portal and is allowed to access the functionalities of the system
Exception Paths	The user may abandon the operation at any time
Other	Log in details will contain username, password and role (student /faculty /staff)

3.1.2 Student: Student Registration

Use Case Name	Student Registration
Trigger	The student confirms to send the submitted course list to concerned faculty
Precondition	The user is logged in and has selected the relevant courses. Other prerequisites such as successful payment of fees is also included
Basic Path	1. The student logs in

	2. After clicking on the *registration link*, the student selects the required courses for the current semester 3. The student presses the *submit* button 4. The student confirms that the query is to be sent to the concerned faculty
Alternative Paths	If a student selects an incorrect elective or the net sum of credits of all the courses selected exceeds the number provided by the staff, issue an error. The student is asked to re-enter the courses
Post-Condition	A query with the corresponding details of the student is sent to the concerned faculty member
Exception Paths	The student may abandon the operation at any time

3.1.3 Student: Redirection to Fee Payment Portal

Use Case Name	Redirection to Fee payment portal
Trigger	The student clicks on the fee payment link
Precondition	Fees or Dues has not been paid by the student
Basic Path	1. Student logs in 2. The student presses the *fee payment* button 3. The student is redirected to Fee Payment portal
Post-Condition	The student gets redirected to the Fee Payment portal
Exception Paths	The student may abandon the operation at any time

3.1.4 Faculty: Approve/Disapprove Registration Request by Student

Use Case Name	Registration Approval
Trigger	The professor will click on *approve/disapprove* radio button and save the edits
Precondition	The faculty is logged in
Basic Path	1. The faculty logs in 2. The faculty views approval request of the concerned student 3. The faculty views the student profile, if required to view his/her academic performance 4. The faculty presses and saves the *approve/disapprove* radio button accordingly

Post-Condition	Faculty's approval/disapproval will be save in the database
Exception Paths	1. The Faculty may abandon the operation at any time 2. The Faculty saves the changes without approving/disapproving the student request
Other	The faculty can also view registration status of students in his department

3.1.5 Staff: Add Data and Assign Roles

Use Case Name	Add Data and assign roles
Trigger	Click on the respective button after adding details
Precondition	The Staff is logged in
Basic Path	1. The staff logs in 2. The staff has the option to add a new entry and assign its role 3. The staff can click on the *add* button
Post-Condition	The entry is updated in the respective database
Exception Paths	1. The Staff may abandon the operation at any time 2. The staff did not fill some of the compulsory fields but clicked on *add* button
Other	1. Student information such as the year, branch, username/password and other details need to be inputted 2. Faculty information such as the courses offered, designation, department to which he/she is faculty advisor to (if applicable) need to be inputted

3.1.6 Staff: Update/ Delete Data

Use Case Name	Update / Delete data
Trigger	Click on the respective button after updating details
Precondition	The Staff is logged in
Basic Path	1. The staff logs in 2. The staff has the option to update or delete an existing entry

	3. The staff can click on the *update* or *delete* button
Post-Condition	The entry is updated in the respective database
Exception Paths	The Staff may abandon the operation at any time
Other	Categorically selecting the data to be modified needs to be done by the user

3.1.7 Student / Faculty / Staff: Change Password

Use Case Name	Change Password
Trigger	Click on the *change password* button
Precondition	The Student/ Faculty /Staff is logged in
Basic Path	1. User logs in 2. User goes to user profile and selects the *change password* option 3. The older and the newer password are entered and older password is verified 4. User clicks on *change password*
Post-Condition	The new password is updated in the respective database
Exception Paths	The user may end the operation at any time
Alternative Paths	1. The user may enter wrong older password, he will be given another chance to re-enter
Other	The password specifications such as the minimum length/security measures

3.3   Detailed Non-Functional Requirements

3.4   *Logical Structure of the Data*

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4.0 Supporting information

4.1 Table of contents and index

4.2 Appendices