IMPLEMENTATION OF COURSE ADVISOR

A Dissertation submitted in partial fulfilment of the requirements for the degree

Of

MASTER OF COMPUTER APPLICATION (MCA)

IN

COMPUTER SCIENCE AND ENGINEERING

2022

Submitted by

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CERTIFICATE BY THE EXAMINER

This dissertation titled "**Implementation of Course Advisor**" was submitted by **Arindam Kashyap** (CSM20015) and **Nitish Kumar Nath** (CSM20048) in partial fulfilment of the requirements for the major project of Master of Computer Applications has been examined.

Examiner

Date:

Place: Tezpur

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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CERTIFICATE

This is to certify that the dissertation entitled "**Implementation of Course Advisor**" is submitted by **Arindam Kashyap** bearing Roll no: **CSM20015** and **Nitish Kumar Nath** bearing Roll no: **CSM20048** is carried out by them under my supervision and guidance for partial fulfilment of the requirements and the regulations for the award of the degree of Master of Computer Applications during the session 2020-2022 at Tezpur University. To the best of my knowledge, the matter embodied in the dissertation has not been submitted to any other university/institute for the award of any Degree or Diploma.

Date:

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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CERTIFICATE

This is to certify that the project report entitled **Implementation of Course Advisor**, submitted to the Department of Computer Science and Engineering, Tezpur University, in partial fulfilment for the award of the degree of Master of Computer Application (MCA), is a record of bona fide work carried out by **Arindam Kashyap,** Roll No. CSM20015**, Nitish Kumar Nath,** Roll No. CSM20048**.** They have carried out their project under the guidance and supervision of **Dr. Ram Charan Baishya**, Associate Professor, Department of Computer Science and Engineering, Tezpur University.

This approval does not necessarily endorse or accept every statement made, opinion expressed, or conclusion drawn as recorded in the report. It only signifies the acceptance of this report for the purpose for which it is submitted.

Date:

Place:

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Head of the Department

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

TEZPUR UNIVERSITY

DECLARATION

We hereby declare that the project presented in this report entitled "**Implementation of Course Advisor**" is submitted in partial fulfilment for the award of the degree of Master of Computer Application during the academic year 2022, has been carried out by us and that it has not been submitted in part or whole to any institution for the award of any other degree or diploma.

Date:

Place:

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Arindam Kashyap (**CSM20015**)

Nitish Kumar Nath (**CSM20048**)

ABSTRACT

Implementation of Course Advisor is a web-based application for assigning the faculties in the role of course advisor for the students of Tezpur University. We will provide a platform where course advisors can view students that are assigned to them under a particular session and accept the courses that are registered by the student in that session. Course advisors can view the student's details such as completed credit, current CGPA, completed courses, incomplete courses and current courses that are registered by the students. By reviewing the details of students, the course advisor can modify the courses registered by the student and accept the registered courses. This site will also provide a feature where the faculties can view the students registered under the courses allotted to them and can give grades to the students for the corresponding courses.

In this system, the Head of Departments (HOD) will be another user. HOD can view the faculties assigned to the courses under different sessions. HOD can also assign faculties to the courses for the current session. The system will also provide the feature of modifying the faculties assigned to the respective courses. The HOD can view the students under different sessions and programmes offered by the respective department and can assign the course advisor to the students for the current session. This website will also provide a feature where HOD can view the students' report card by entering the details of the corresponding students.

Contents

Chapter-1

INTRODUCTION

1.1 Brief Introduction

Tezpur University has numerous students under different programmes. Students from different programmes register for the semester with various courses. The course advisor will play a crucial role for the students to register for the courses that are suitable for them under that semester based on their previous academic results.

1.2 Aim and Objective

Aim:

To develop a web application for Implementing the Course advisor system for Tezpur University that facilitates the course advisors to help students procure suitable courses for the current semester based on their previous academic results. The HOD should be able to assign, modify course advisor to students, assign, add and delete faculties to courses of different programmes and should be able to view the students reports.

Objective:

The main objective of this project is to learn about HTML, PHP, JAVASCRIPT, JQUERY and MySQL and to implement HTML, PHP, JAVASCRIPT, JQUERY and MySQL to design Implementation of Course Advisor that features the course advisor to help students in their course registration based on previous semester results in an efficient and organized way and to analyse the issues of IS design (apply database concept, software engineering concept). The major roles – HOD, faculties will be able to perform their respective tasks easily.

The purpose of the project is to build a system which helps the students of Tezpur University to choose right and suitable courses for their semester based on previous semester results. HOD will assign faculties to courses for the current session and allot course advisor to the students of different programmes. The course advisor allotted to the particular student by HOD will help the students in their course registration. The system should be user-friendly, time-saving, and easy to operate.

1.3 PROJECT PROFILE

Project title	: **Implementation Of Course Advisor**
Project member	: **Arindam Kashyap (CSM20015)**
	Nitish Kumar Nath (CSM20048)
Guide	: **Dr. Ram Charan Baishya**
Duration	: **Five months**
Operating system	: **Windows 10**
Web server	: **Apache (XAMPP)**
IDE	: **Visual Studio Code**

Chapter-2

INITIAL SYSTEM STUDY

2.1 System Introduction

This system can be used by the HOD's to assign course advisor to students of different programmes, to assign faculties to the courses and modify them, view the students reports. Faculties (Course advisor) can view the students assigned to them and help in their course registration and provide grades to the students registered under the courses assigned to faculty. This system is user friendly and hence easy to use. It is more efficient and will save a lot of time.

2.2 Drawbacks of The Existing System

- In the existing system, there are not any features which allow the faculties to help students in their course registration in online mode.
- In the existing system, the students generally register for the courses without any guidance, restrictions which leads to a lot of problems in their semester reports.

2.3 Problem Statement

To implement the Course Advisor system for the Tezpur University, Assam, India

2.4 Proposed System

Tezpur University has numerous students under different programmes. Students register for the semester with various courses. The course advisor will play a crucial role for the students to register for the courses that are suitable for them under that semester based on their previous academic results. We will provide a platform where course advisors can view students that are assigned to them under a particular session and accept the courses that are registered by the student in that session. Course advisors can view the students' details such as completed credit, current CGPA, completed courses, incomplete courses and current courses that are registered by the students. By reviewing the details of students, the course advisor can modify the courses registered by the student and approve the registered courses. This system will also provide a feature where the faculties can view the students registered under the courses allotted to them and can provide grades to the students for those courses.

In this site, Head of Departments (HOD) will be another user. HOD can view the faculties assigned to the courses under different sessions and can assign faculties to the courses for the current session. The site will also provide the feature of modifying the faculties assigned to particular courses. The HOD can view the students under different sessions and programmes offered by the respective department and can assign the course advisor to the students for the current session. This site will also provide a feature where HOD can view the students' report card by entering the details of students.

2.5 Scope of the Proposed System

- The project Implementation of Course Advisor will be a handy tool for the HOD's to assign course advisors to students and assign faculties to the courses.
- HOD's can also view the students' report cards.
- The course advisors can help the students in their course registration based on their previous semester results and provide grades to the students registered for the courses under them.
- Facility of user authentication for the authorized users.
- User friendly interface to know each usable feature of the system.
- Less time-consuming system and hence it has high level of efficiency.

2.6 SCOPE OF THIS PROJECT

This project has been done in the fourth semester of the Master of Computer Application (MCA) course of Tezpur University. The duration of the project is around five months. Within this project, we complete the following component of the above-mentioned system:

- Carry out a detailed System Analysis of the Implementation of Course advisor system.
- Designing/Creation of relational tables using MySQL.
- HOD's can assign faculties to the courses and view, add, modify them.
- HOD's can assign faculties in the role of course advisor to the students of different programs and view, modify them.
- HOD's can view the student's report.
- Faculties can view the students assigned to them and can view their academic details.
- Faculties can modify the courses registered by the students and accept the courses registered by the students for the current session.
- Faculties can give grades to the students registered under the courses assigned to the faculty.

Chapter-3

FEASIBILITY STUDY

It is both vital and prudent to assess a project's feasibility as soon as possible. There are a variety of methods for determining whether a system is practical. The following feasibility studies were carried out to determine the system's viability.

3.1 Technical Feasibility

The working project is technically feasible because it can be completed easily with available equipment and existing software.

3.2 Economic Feasibility

The system's development costs are weighed against the ultimate benefit received from the new system. It has been determined that the benefits of the new system will outweigh the costs and time involved in its development.

3.3 Behavioural Feasibility

It is observed that the proposed system is very user friendly and since the system is built with enough help, even persons with little knowledge of technology can find the system very easy. Users require no special training for operating the system. The system is quite easy to use and learn due to its simple but attractive interface.

3.4 Conclusion

From the observation made above it was concluded that the proposed "Implementation of Course Advisor" is feasible and justifiable that the feasibility study could be followed by system analysis and design phase.

Chapter-4

SOFTWARE REQUIREMENT SPECIFICATION

4.1 Overall Description

4.1.1 Product Functions

"Implementation of Course Advisor" is a web-based system and is an independent one. The system is a client server system, so it can be made to exist in the network of computers; this helps different users to access simultaneously helping to search the course, student details and provide an interface for the HOD's to assign faculties to course , assign faculties as Course advisor to the students and view the students report and provide an interface to the faculties to view the students assign to them and modify and accept the course registered by them.

The following are the primary features included in System-

1. **Account Login:**
   - The account login function requires TU employees to enter their username and password.
   - the system will check the login credentials and provide response to it. If the user of the system forgot password, then he/she can opt for forgot password option by entering the official email address of Tezpur University.

2. **Update information by Course Advisor:**
   - After successful login, Course advisor (faculties) can view the students assign to them.
   - Course advisor can view the student's academic details and can update or modify or accept the course registration of the students based on their details. (An email will be sent after acceptation)
   - Course advisor can provide grade to the students registered under the course assigned to the faculty.

3. **Account Logout:**
   - The Account logout allows authenticated user to exit their accounts for security reasons.

4. **HOD:**

   The HOD will be provided with special functionalities like
   - Assign faculties to the students in the role of course advisor and modify the existing details for the current session.
   - Assign faculties to the courses for the current session and modify the existing details for the current session.
   - Can view the students' academic reports.

4.1.2 User Characteristics

- The user can be faculties of Tezpur University.
- Both HOD and Faculties (Course Advisor) should know their username and password and official email.

There will be two types of users of the website:

1. Head of Departments (HOD)
2. Faculties (Course advisor)

HOD:

1. Can assign course advisor(faculty) to the students.
2. Can assign faculties to the courses for the current session and view the faculties assigned to the courses in the previous sessions.
3. Can view the students' academic reports in the PDF format.
4. Can Modify the existing information's.

Faculties (Course Advisor):

1. Can view the students assigned to them and their academic details.
2. Can modify the course registered by the students.
3. Can accept the course registration of the students and an email will be sent by the system to the students.
4. Can view the course assigned to them and can provide grade to the students registered under those courses for that session.

4.1.3 General constraints

1. Users must have a full internet connection for surfing the site.
2. The site will be available in English language only.
3. The authorized user can login only by using valid credentials and in case of forget password, they need to provide their official email ID (tezu.ernet.in).
4. Any authorized user of the system should be allowed to use the system from one window of one computer at a time only and should not be allowed to use again after a longer period of inactivity.

4.1.4 Assumptions and dependencies

- Since the Implementation of Course Advisor is only accessible through the Internet, it is assumed that the end user has a connection to the Internet.
- It is also assumed that the user has a web browser able to display the website. (Google chrome or any compatible browser)

4.2 Specific Requirements

4.2.1 Functional Requirements

A. Maintaining the academic details by the Course Advisor (Faculty).

1. The system should provide a Login page for Authorized users

Input-If the user wants to get access to all the details in the application, he/she should login using his username and password.

Output-

- If it is a successful login the user will be directed to the dashboard page, from where they can either enter to the grade entry or Course Advisor page.
- Else if the user enters invalid information, he will be asked to check the entered information.

2. The system should provide the feature for view assigned students to the course advisor

Input- The course advisor can select the academic session for viewing the assigned students.

output-The system will show the assigned students and their status of course registration acceptance

3. The system should provide the feature for view the academic details of students.

Input- The user will click the particular student from the students list.

Output- The system will show the academic details correspond to the student.

4. The system should provide the feature for delete the course registered by the student in the current session.

Input- The user will click delete button correspond to the course under current courses.

Output- The system will remove the course from the database particular to the student.

5. The system should provide the feature for accept the courses registered by the students.

Input- The user will click the accept button.

Output- The system will ask for confirmation and on confirmed, an email will be sent to the student.

6. The system should provide the feature for view the courses assigned to the faculty.

Input- The user will choose a session from the drop-down list of sessions.

Output- The system will show the courses assigned to the faculty under that session.

7. The system should provide the feature for view the students registered particular to the course assigned to the faculty.

Input- The user will click a particular course from the courses assigned to him/her under that session.

Output- The system will show the students registered particular to the course and their grades.

8. The system should provide the feature for view the grades assigned to the students in previous sessions and provide grades to the students for the current session.

Input- The user will click the courses assigned to him/her.

Output- The system will show the students and their corresponding grades in that course.

9. The system should allow users to logout from the site.

Input- The user will click the logout button.

Output- The user's account session comes to an end, and he should login again if he wants to enter the website.

B. Head of Department (HOD)

1. LOGIN

Input- If the user wants to get access to all the details in the application, he/she should login using his username and password.

Output-If it is a successful login the HOD will be directed to the HOD dashboard. Else if the HOD entered invalid information, he will be asked to check the entered information.

2. The system should provide the feature for assign faculties to the courses for current session.

Input- The user will click the ‘course and faculty’ button and then click on the current session.

Output- The system will show the course list and allow users to choose one or multiple faculties for the courses.

3. The system should provide the feature for deleting the faculties assigned to a course for the current session.

Input- The user will click the delete button.

Output- The system will delete the faculties assign to the particular course correspond to the delete button.

4. The system should provide the feature for viewing the faculties assigned to the courses of previous sessions.

Input- The user will select the sessions after clicking the ‘course and faculty’ button.

Output- The system will show the courses and faculties assigned to that course.

5. The system should provide the feature for assign course advisor to the students of different programmes under the current session.

Input- The user will click the course advisor button and then choose the programmes and session and then the faculties correspond to the students

Output- The system will save the faculty correspond to the student.

6. The system should provide the feature for view the course advisor assigned to the students in the previous sessions.

Input- The user will click the course advisor button and then choose the programmes and session.

Output- The system will show the students and their corresponding faculties.

7. The system should provide the feature for view the student's academic report.

Input- The user will click the student report button and then enter the student's enrolment number.

Output- The system will output the report in PDF format if valid enrollment number is entered or it will output as "INVALID ROLL NUMBER".

8. The system should allow admin to Logout from the site

Input- The user will click the logout button.

Output- The user will be log out of the site and he should login again if he wants to enter the website.

4.2.2 Non Functional Requirement:

- The system requires the authorised users to have an official email (tezu.ernet.in)
- The system interface should be easy to understand by all users.
- The systems interface should be easy to maintain.
- Secure access to Authorized user's confidential data.
- 24X7 availability.

4.3 Hardware and Software Requirement

User Interface: The system will provide users with a graphical user interface; there will be no command line interface for any of the product's functions.

4.3.1 Hardware Requirements

- Any device with an operating system capable of running a Web Browser and displaying webpages as output.

4.3.2 Software Requirements

The system will run on any computer or mobile device with the help of anyone of the browser installed in the system. (Google Chrome or Microsoft Edge is preferable).

4.3.2.1 Software Development Platform:

For developing this project, HTML, Bootstrap and CSS, JavaScript, and jQuery are used in the frontend, and PHP and MySQL are used in the backend.

HTML provides the foundation for site structure, which is enhanced and modified by other technologies such as CSS and Bootstrap.

jQuery is used to control presentation, formatting, and layout, as well as CSS, Bootstrap, and JavaScript.

MySQL is a SQL-based relational database management system. The application is used for a variety of tasks, including data warehousing, e-commerce, and logging. MySQL, on the other hand, is most commonly used as a web database.

PHP (Hypertext Pre-processor) is a scripting language that can be used to create dynamic and interactive websites.

Chapter-5

SYSTEM DESIGN

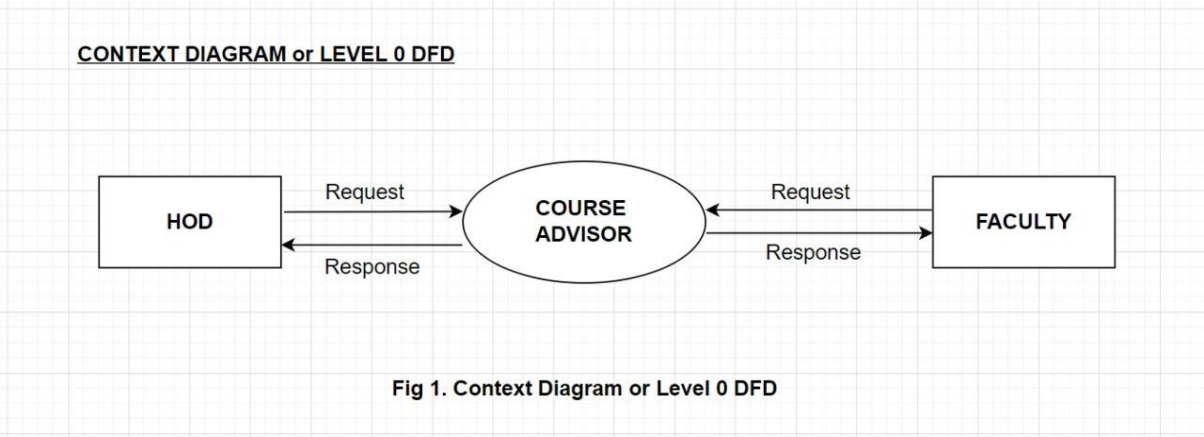


Fig 1. Context Diagram or Level 0 DFD

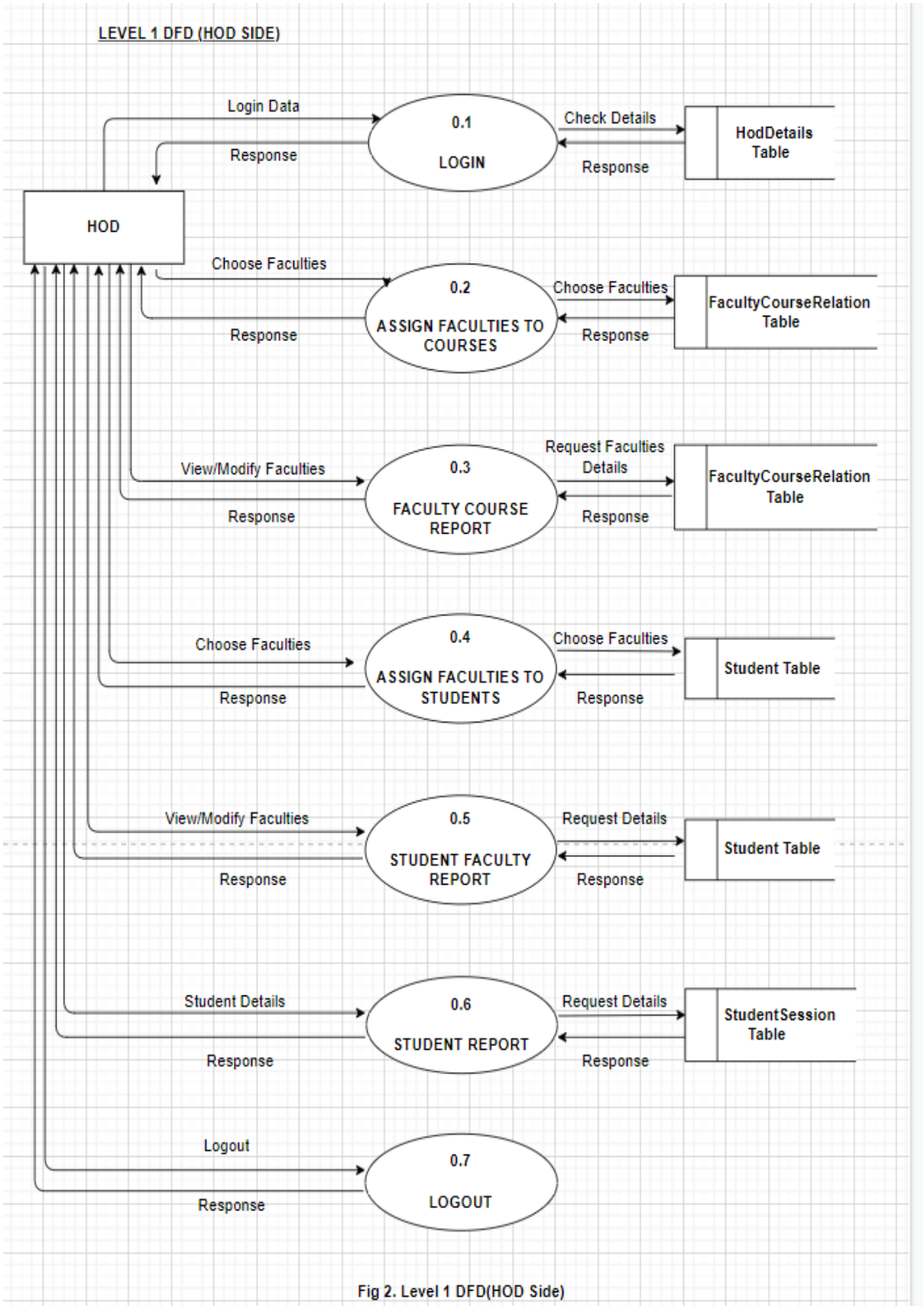


Fig 2. Level 1 DFD(HOD Side)

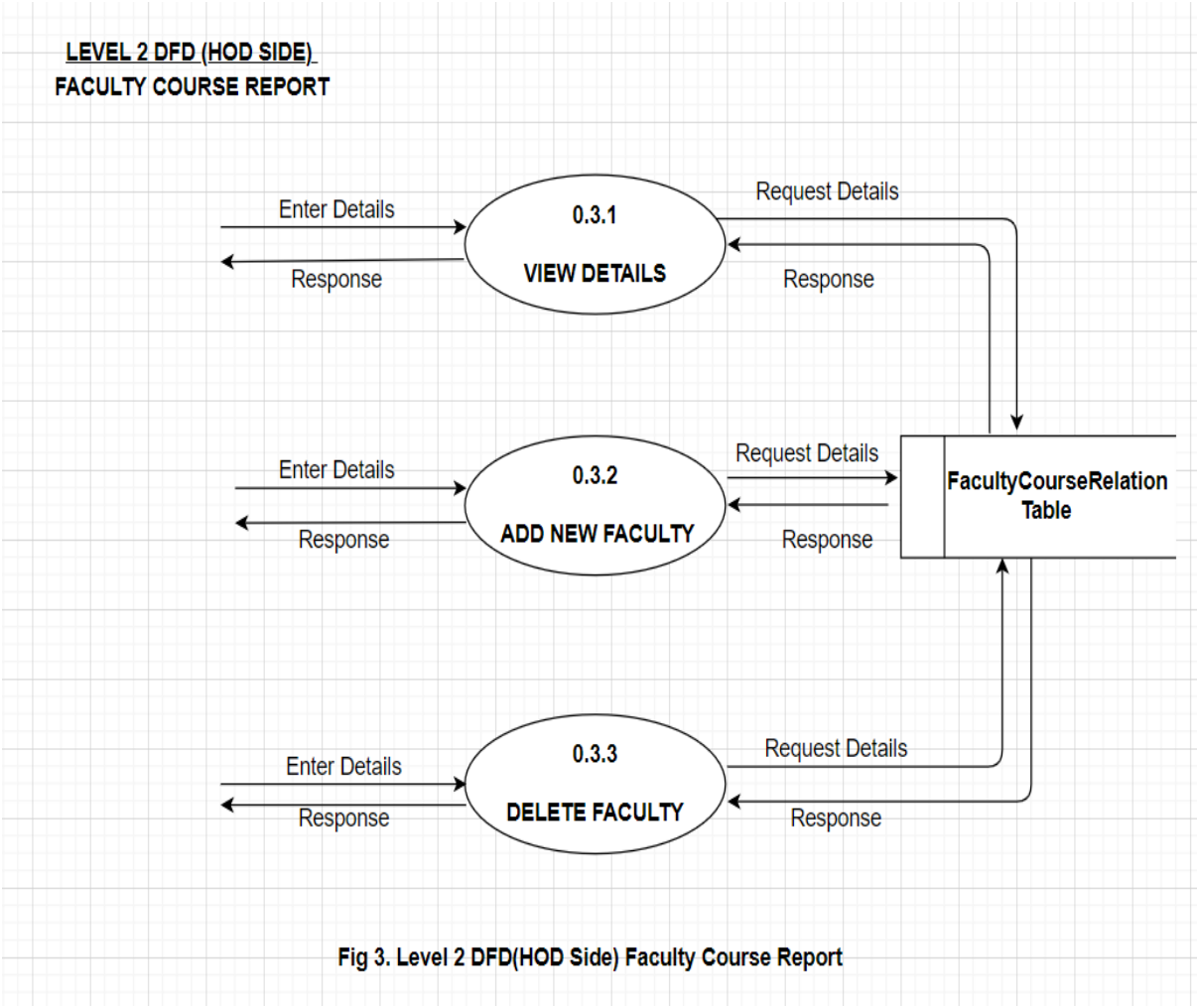


Fig 3. Level 2 DFD(HOD Side) Faculty Course Report

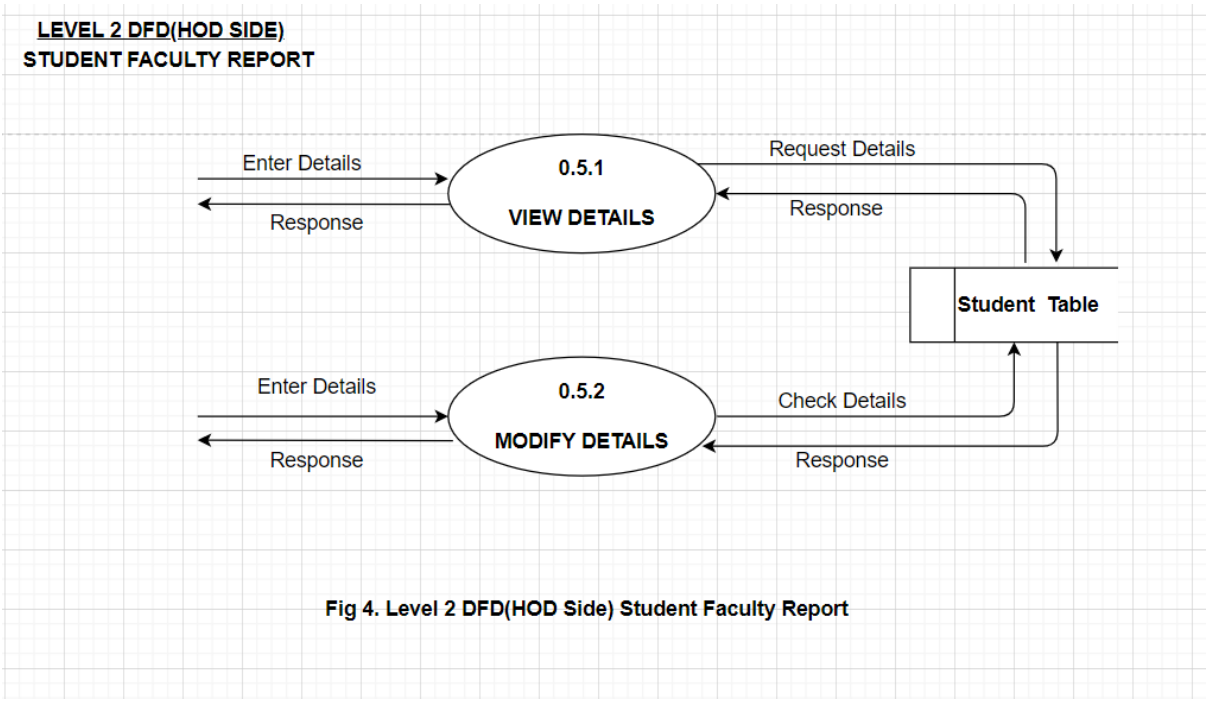


Fig 4. Level 2 DFD(HOD Side) Student Faculty Report

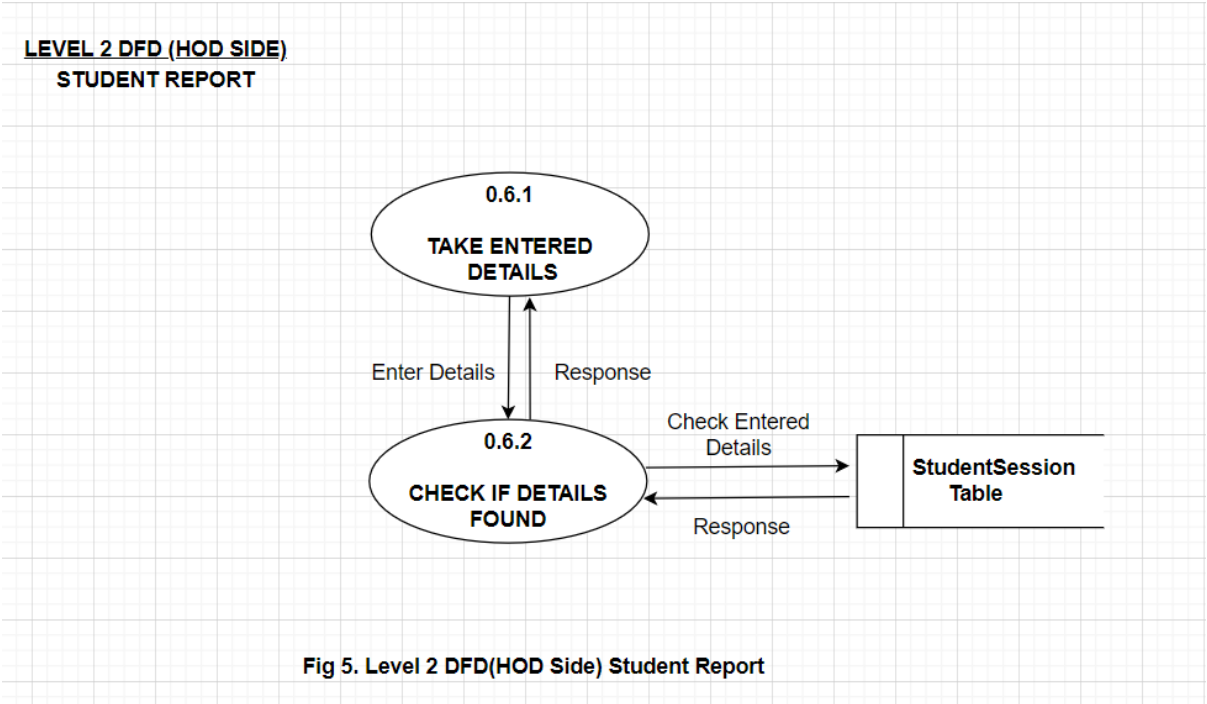


Fig 5. Level 2 DFD(HOD Side) Student Report

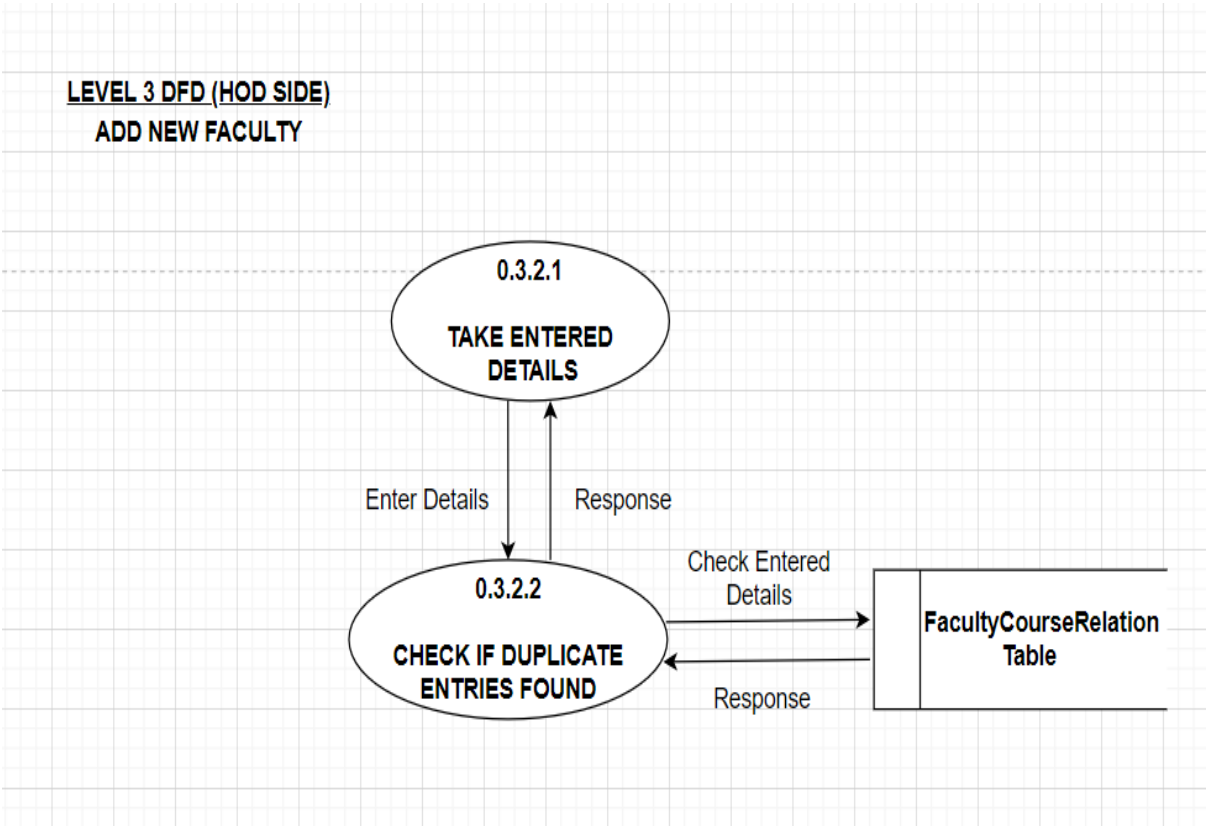


Fig 6: Level 3 DFD (HOD SIDE) Add new faculty

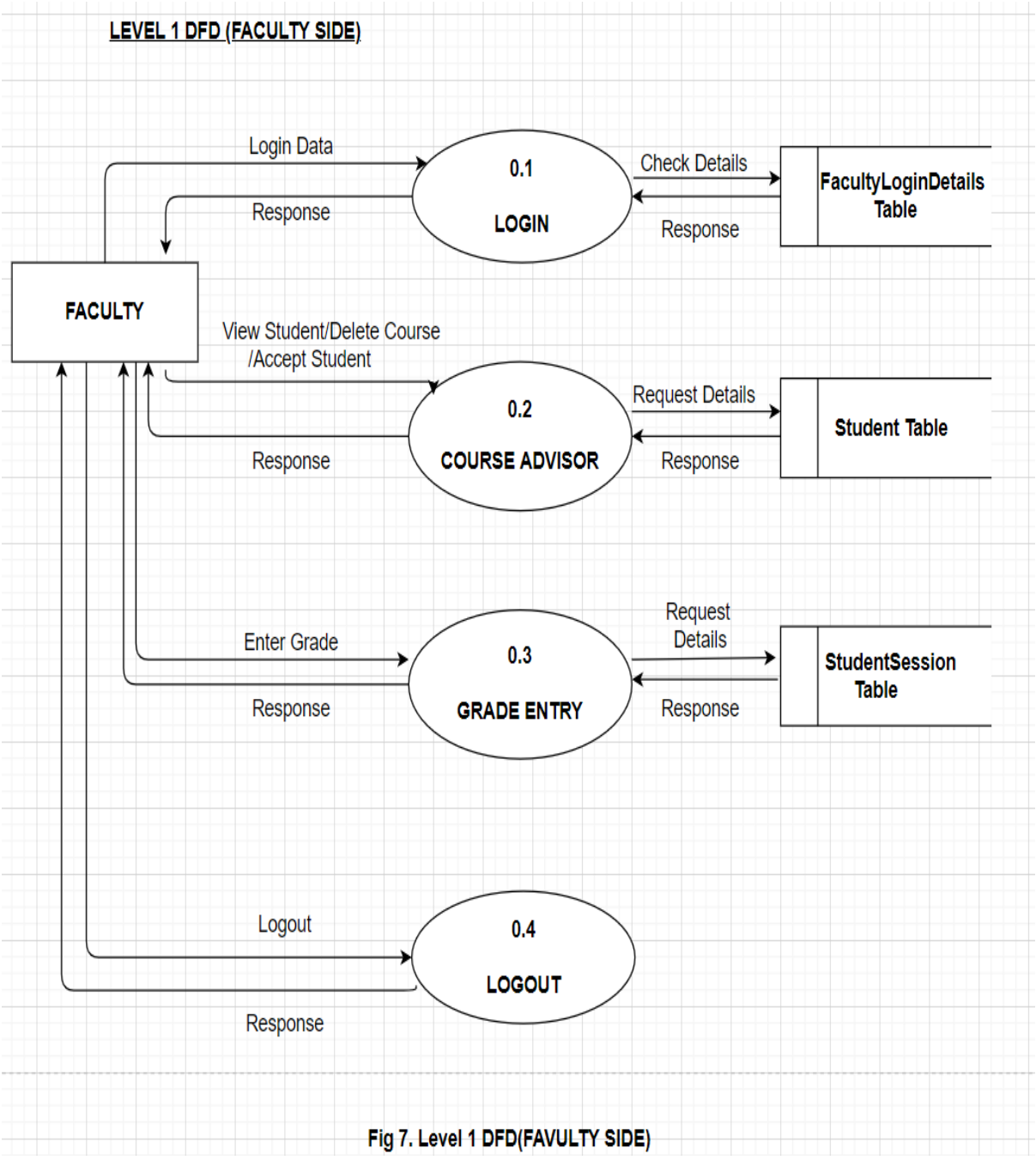


Fig 7. Level 1 DFD(FAVULTY SIDE)

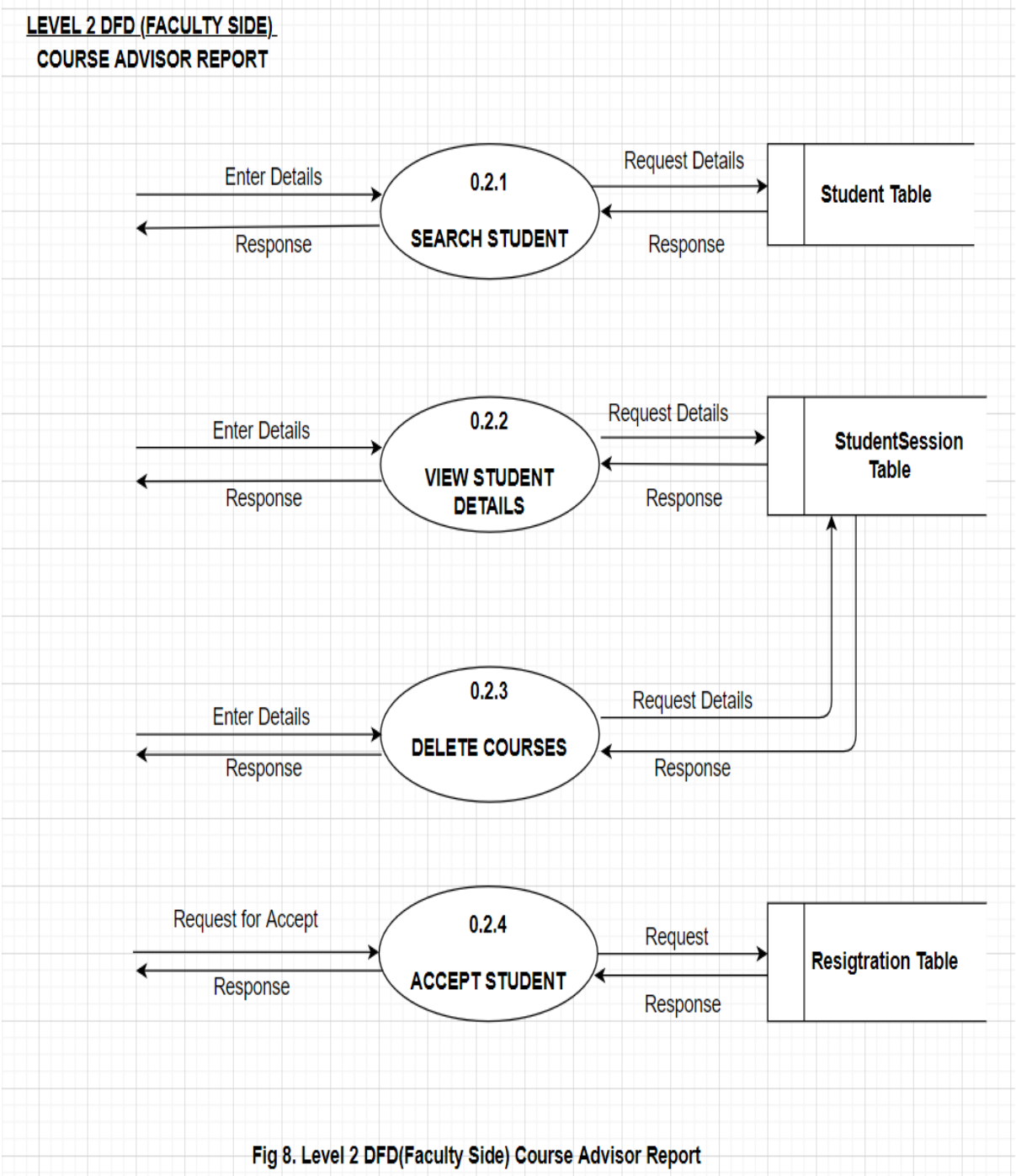


Fig 8. Level 2 DFD(Faculty Side) Course Advisor Report

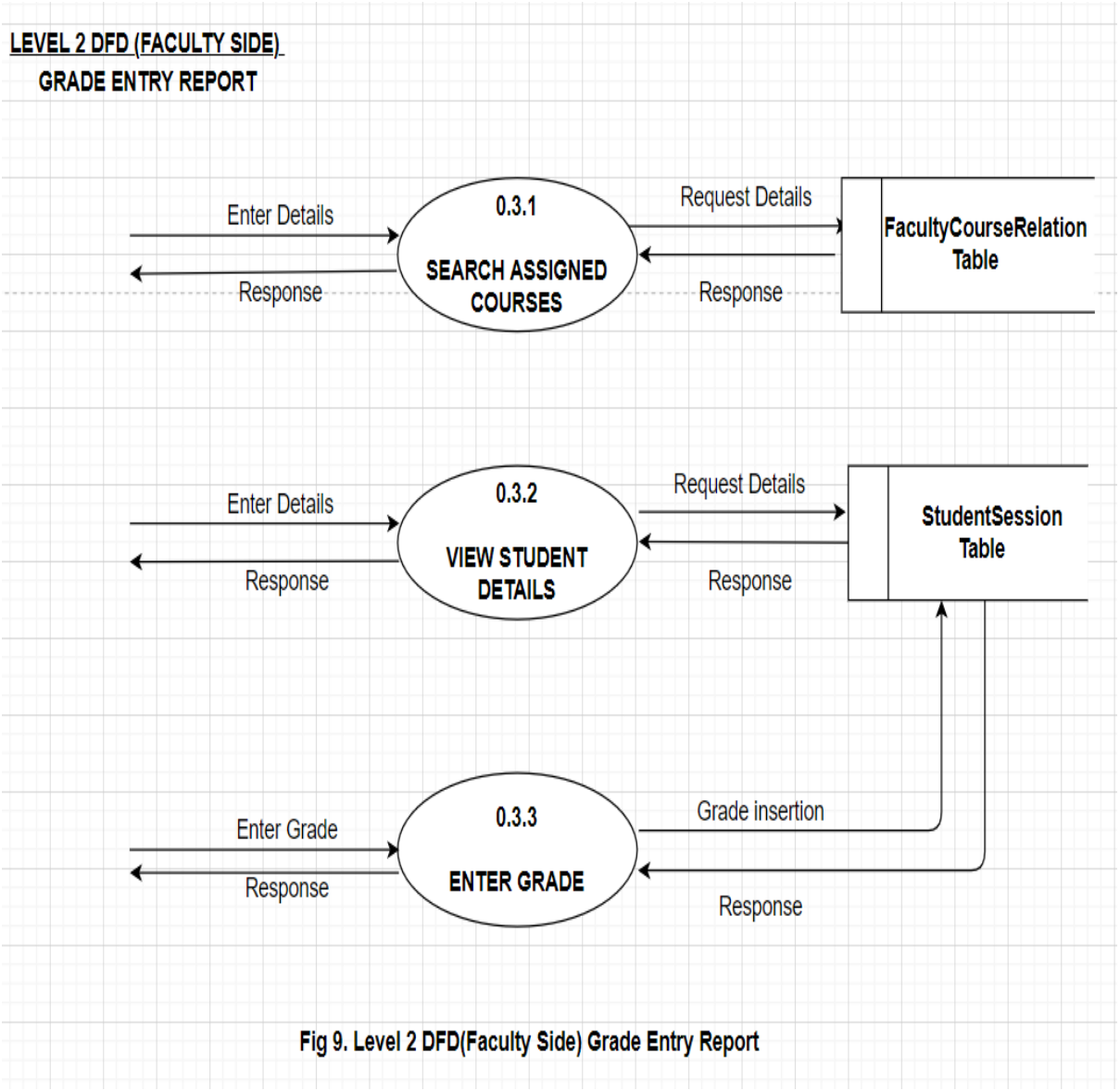


Fig 9. Level 2 DFD(Faculty Side) Grade Entry Report

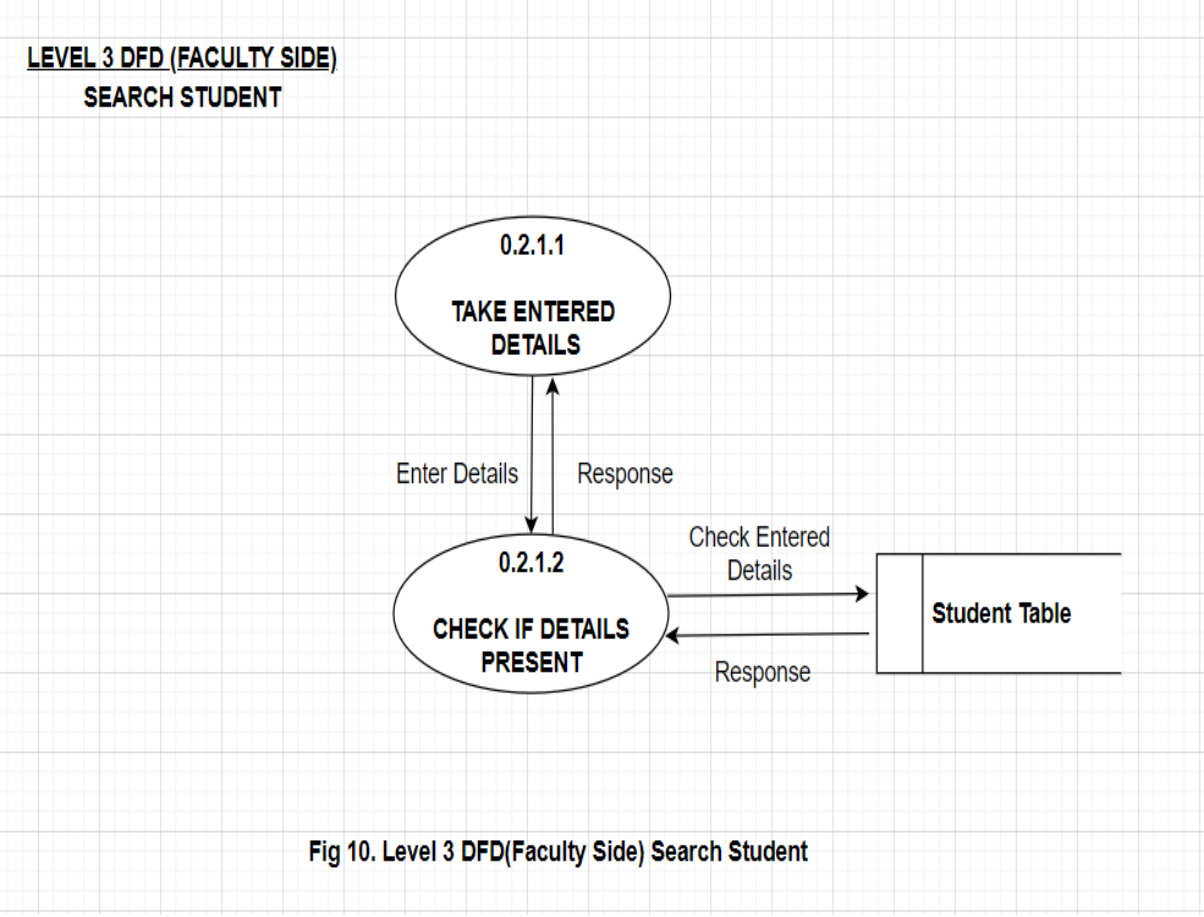


Fig 10. Level 3 DFD(Faculty Side) Search Student

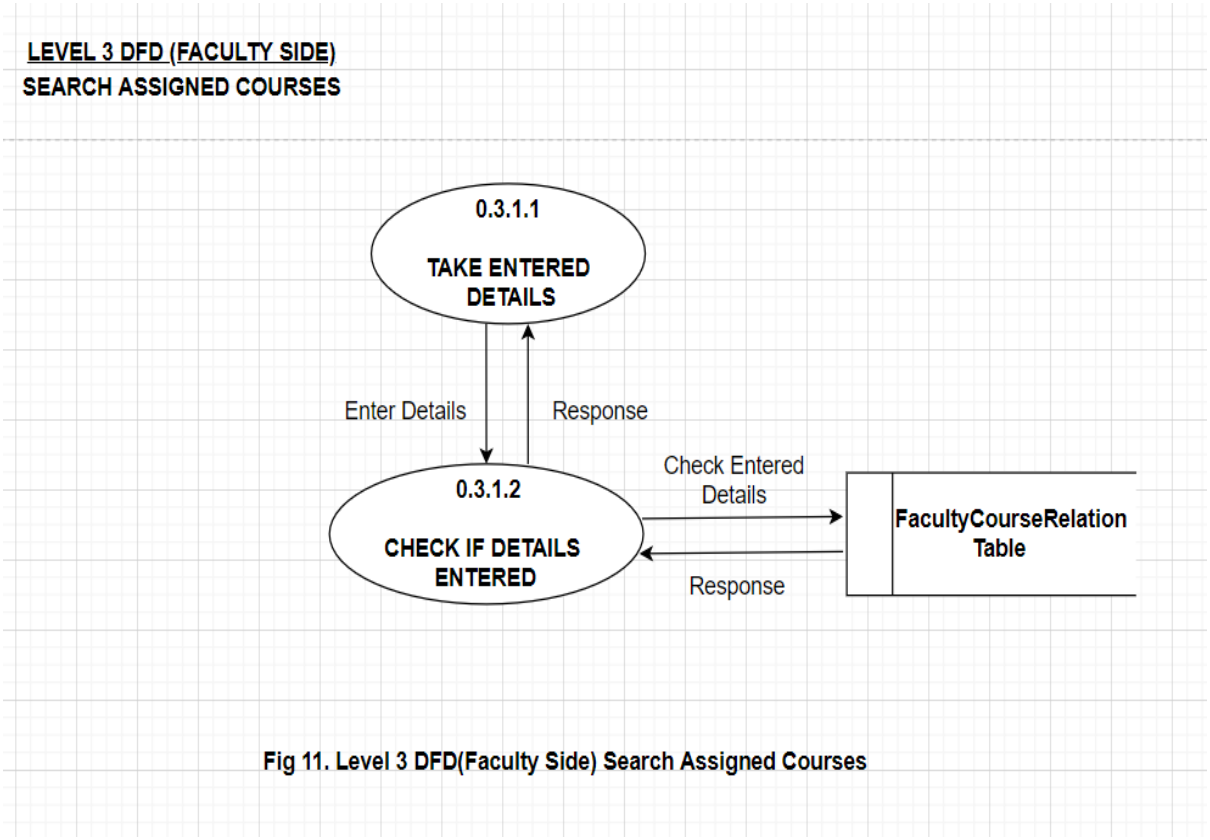


Fig 11. Level 3 DFD(Faculty Side) Search Assigned Courses

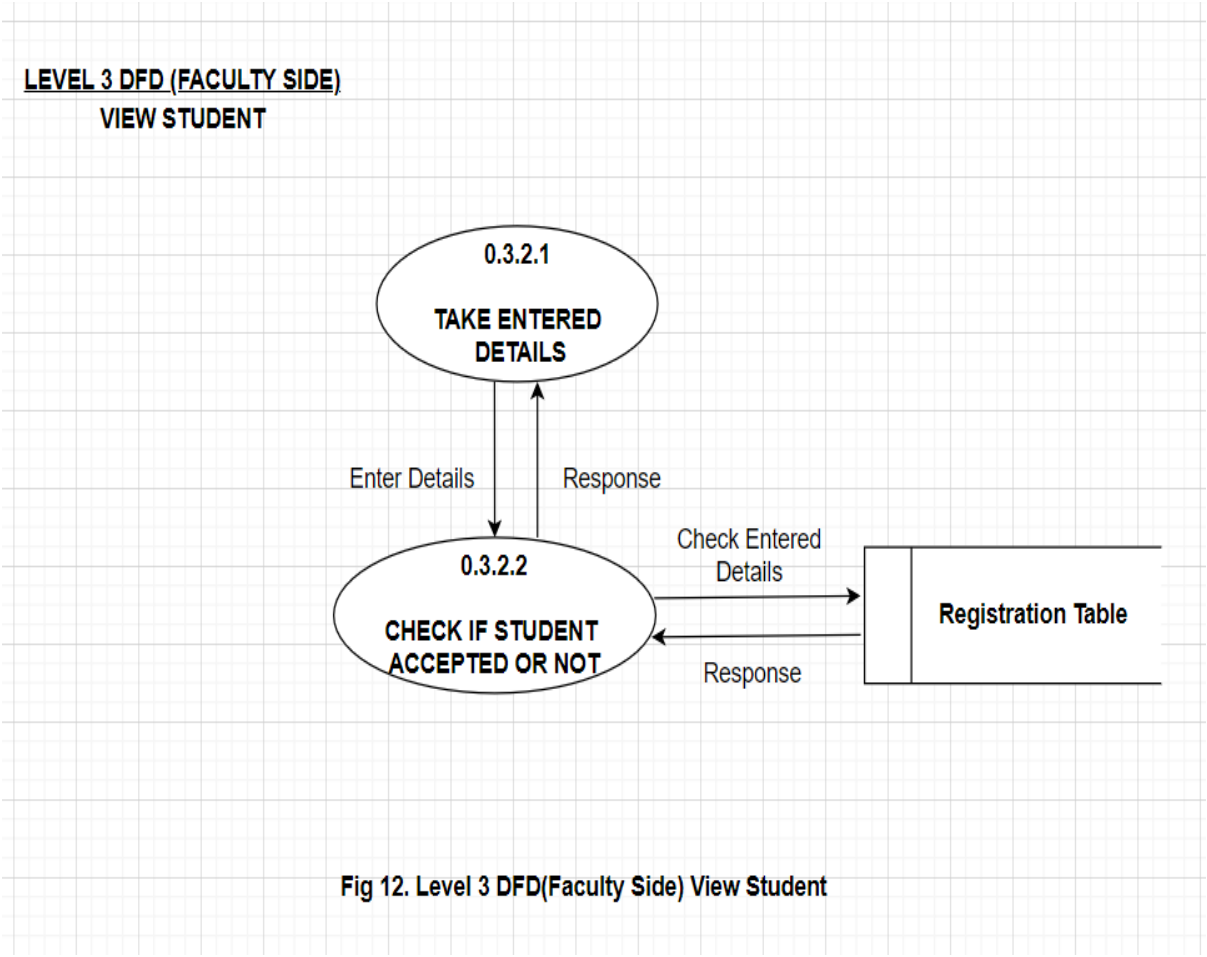


Fig 12. Level 3 DFD(Faculty Side) View Student

5.2 ENTITY RELATIONSHIP DIAGRAM

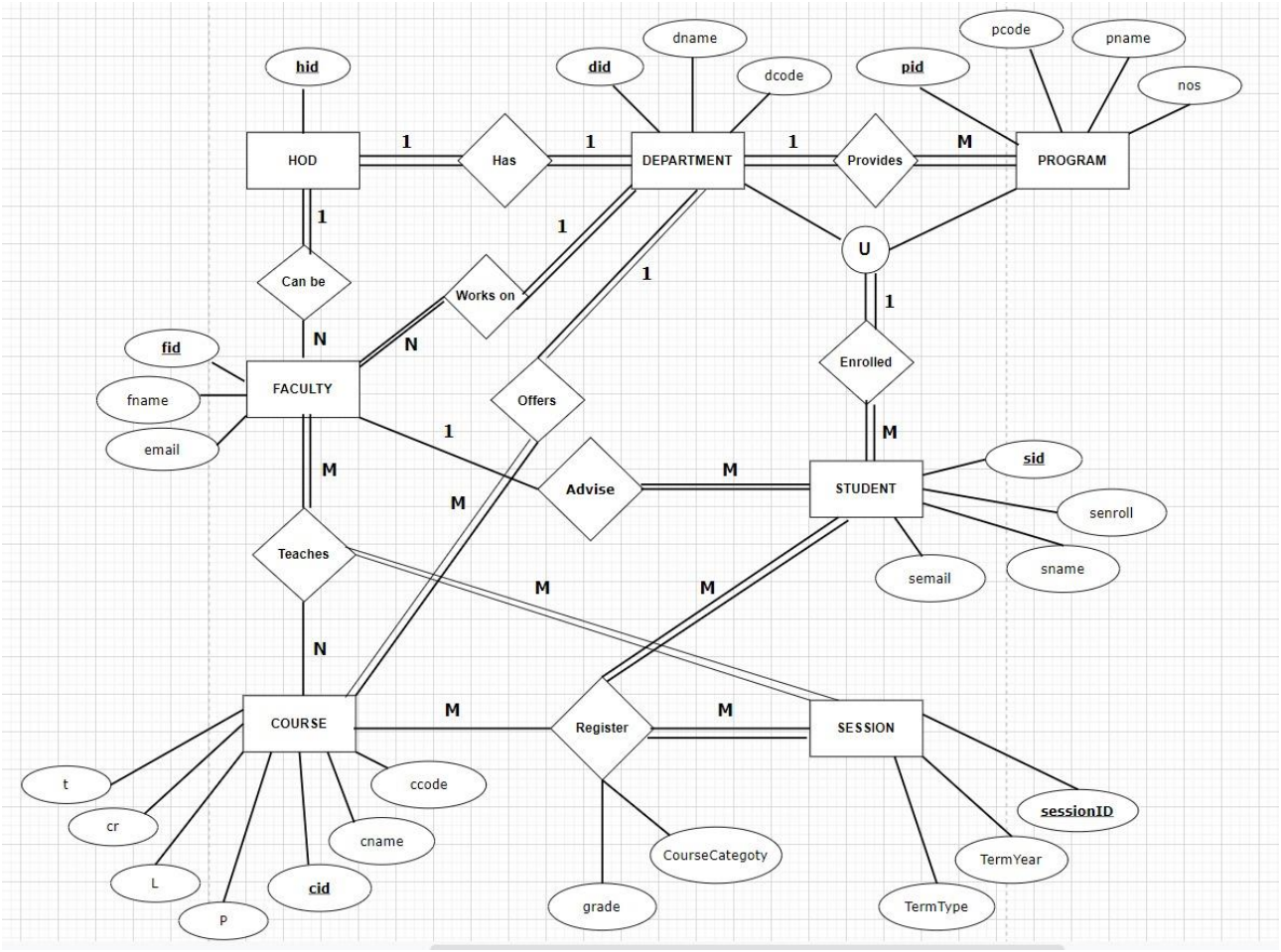


Fig. 11 Entity Relationship Diagram of IMPLEMENTATION OF COURSE ADVISOR

5.3 DATA DICTIONARY

COURSE TABLE:-

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
cid	Small Int	1	Course unique Id	Primary key
cname	Varchar	50	Course name	Not null
ccode	varchar	10	Course code	Not null
l	char	1	Lecture credit	Not Null
t	char	1	Tutorial credit	Not Null
p	char	1	Practical credit	Not Null
Cr	Char	2	Total credit	Not Null
Did	Small int	1	Department Id	Foreign key

DEPARTMENT DETAILS TABLE:-

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Did	Small int	1	Department ID	Primary key
Dname	varchar	50	Department name	Not null
Dcode	char	6	Department code	Not null

FACULTY DETAILS TABLE:-

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Fid	Small int	1	Faculty Id	Primary key
Fname	varchar	30	Faculty Name	Not null
Email	varchar	45	Faculty Email	Not null
did	Small int	1	Department ID	Not null

FACULTY LOGIN DETAILS TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
ID	Small int	1	Unique ID of table	Primary key
Fid	Small int	1	Unique ID of faculty	Foreign key
Username	varchar	20	Username of faculty	Not null
Password	Varchar	10	Password of faculty	Not null

HOD DETAILS TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Hid	Small int	1	HOD unique ID	Primary key
Fid	Small int	1	Faculty unique ID	Foreign key
Username	Varchar	20	Department unique ID	Foreign key
Password	Varchar	10	Username of HOD	Not null
Did	Small int	1	Department unique ID	Not null

FACULTY COURSE RELATION TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Cid	Small int	1	Couse Id	Foreign key
Fid	Small int	1	Faculty Id	Foreign key
sessionId	Small int	1	Session Id	Foreign key

PROGRAM DETAILS TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Pid	Small int	1	Program unique ID	Primary key
Nos	Small int	1	Number of semesters	Not null
Pname	Varchar	50	Program name	Not null
Pcode	Char	5	Program code	Not null
Did	Small int	1	Department ID	Foreign key

REGISTRATION TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Rid	Small int	1	Registration Id	Primary key
sessionId	Small int	1	Session Id	Foreign key
studentId	Small int	1	Student Id	Foreign key
isVarified	Char	1	To check if the student is accepted by the advisor or not	Not null

SESSION TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Session Id	Small int	1	Session unique Id	Primary key
Term year	Char(4)	4	Term year	Not null
Term type	Varchar	7	Term type(AUTUMN,SPRING)	Not null

STUDENT SESSION TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Sid	Small int	1	Student unique Id	Primary key
Session Id	Small int	1	Session unique Id	Foreign key
cid	Small int	1	Course unique Id	Foreign key
Course category	Char	6	Category of course	Not null
Grade	Char	3	Grade obtained by student	Default(NA)

STUDENT TABLE:

FIELD NAME	DATA TYPE	SIZE	DESCRIPTION	CONSTRAINT
Sid	Small int	1	Student unique Id	Primary key
Sname	Varchar	50	Student name	Not null
Senroll	Varchar	10	Student enrollment no	Not null
Admit year	Small int	45	Student admit year	Foreign key
Pid	Small int	1	Program Id	Foreign key
Fid	Small int	1	Faculty Id	Foreign key
Semail	Varchar	10	Student email	Foreign key

Chapter 6

SYSTEM IMPLEMENTATION

6.1 Introduction

HTML and BOOTSTRAP, CSS, Javascript, Jquery are used as front-end tools to implement the proposed system "Implementation of Course Advisor," and PHP and MySQL (as a database apache server (XAMPP)) are chosen as back-end tools.

6.2 Software Development Platform

6.2.1 Front-End Tools

• HTML

HTML tells browsers which parts of a webpage are headers, and which are footers, where paragraphs go, where images, graphics, and videos go, and so on. Browsers take that HTML content and convert it into what you see on the screen of your device. HTML is a language that is guaranteed to be understood by all web browsers (applications like Safari, Firefox, and Google Chrome).

• BOOTSTRAP

Bootstrap is a framework that allows you to create websites more quickly and easily. It includes design templates based on HTML and CSS for typography, forms, buttons, tables, navigation, modals, image carousels, and more. The main advantage of using bootstrap is that it increases developer productivity and efficiency by including some ready-made blocks, themes, and templates.

This is my paragraph!

If we wanted to make this paragraph appear bold to people viewing your web page through a web browser, we would use BOOTSTRAP code that looks like this:

```
<p class=" font-weight-bold">This is my paragraph! </ p>
```

• CSS

CSS, which stands for cascading style sheet, aids in the design of websites by instructing browsers on how to display HTML elements on the screen. It has the ability to control the layout of multiple pages at the same time. CSS saves a significant amount of time.

• JavaScript

JavaScript is a front-end programming language that enhances the interactivity of a web page. We use JavaScript to enhance web page functionalities such as validating forms, creating interactive maps, and so on.

• JQUERY

JQUERY is a JavaScript library that is compact, fast, and packed with features.. It reduces a lot of html code and makes programming easier. In our project, we mostly used AJAX calls for database queries, and it does the job very well.

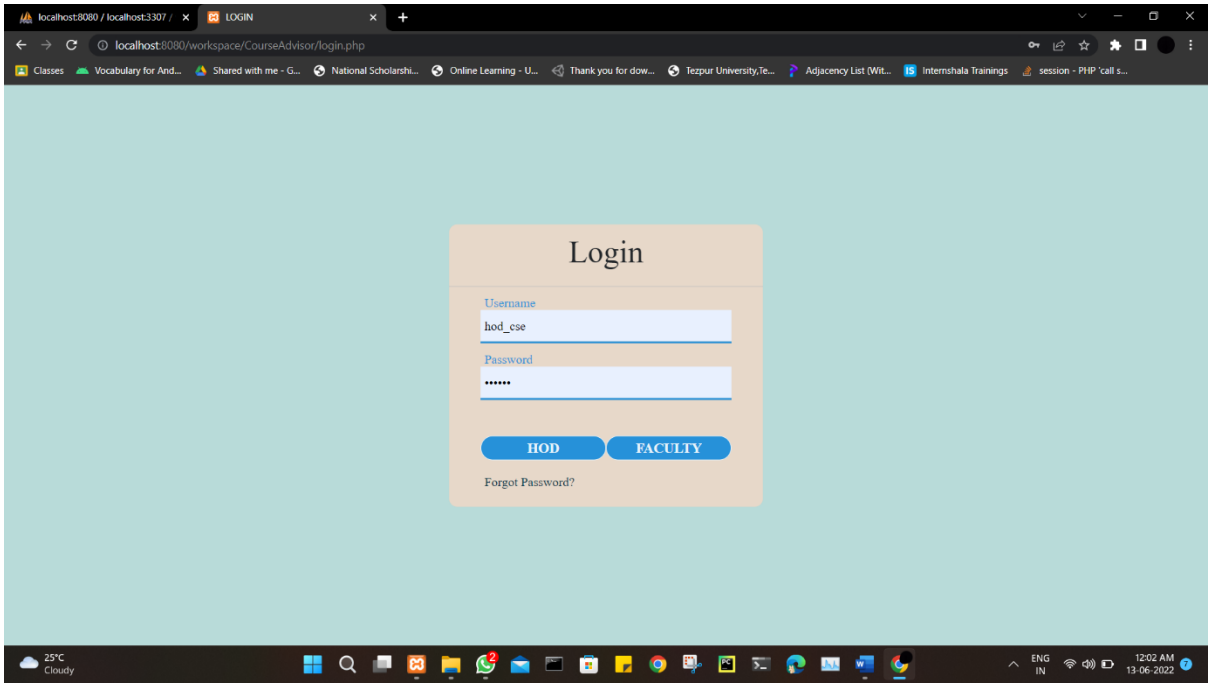
6.2.2 Back-End Tools

- PHP The most popular open-source scripting language is PHP. Its primary function is to generate dynamic page content. PHP, like all backend languages, is in charge of business logic. It also has the ability to collect data, set and receive cookies.

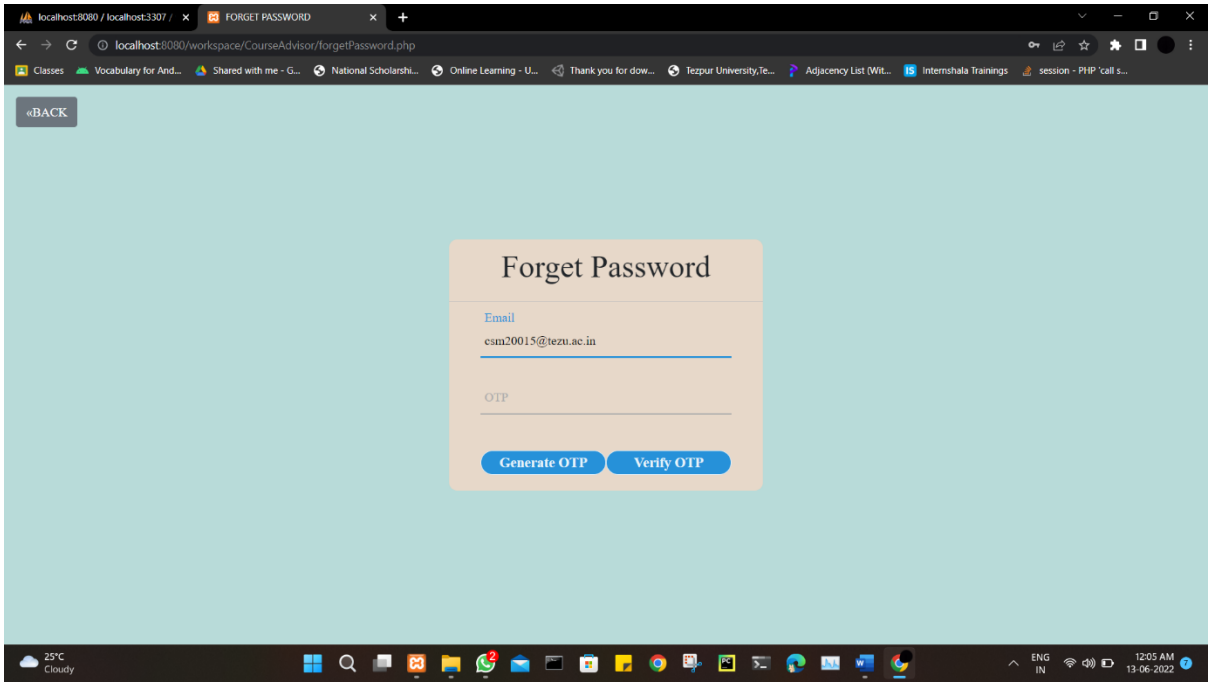
- MYSQL is a SQL-based relational database management system. The application is used for a variety of purposes, such as data warehousing, searching, e-commerce, MYSQL, on the other hand, is most widely used as a web database.

6.3 SNAPSHOTS

1. Login Page

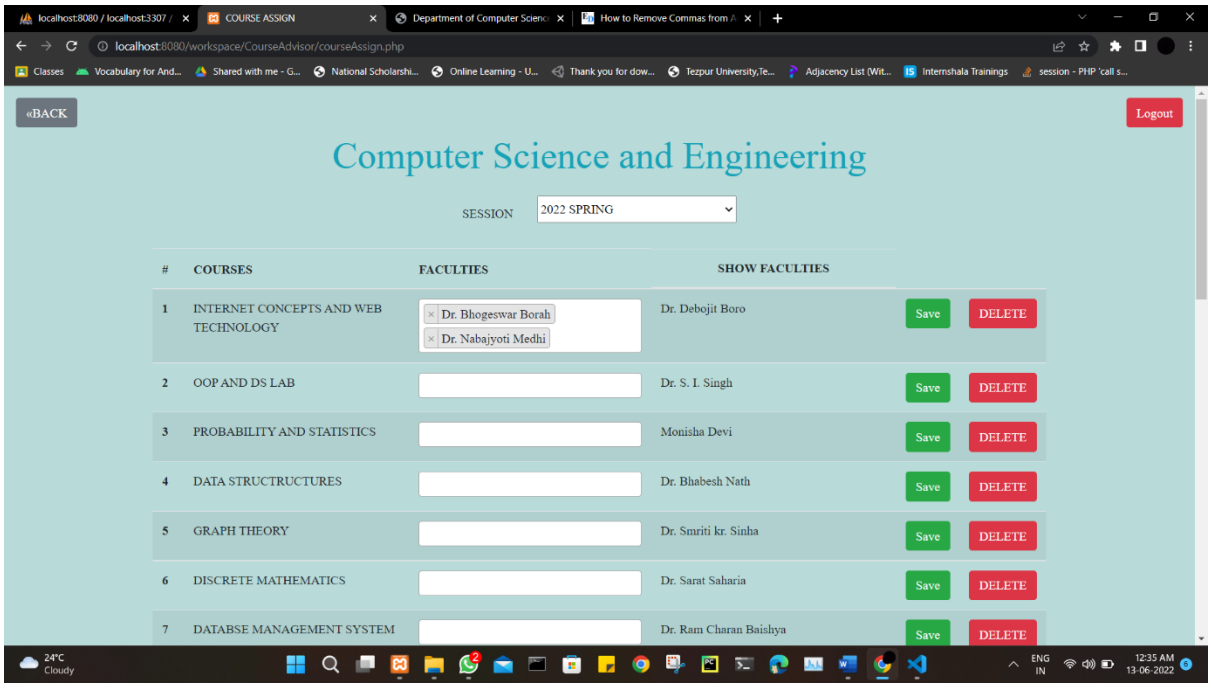


2. Forget Password Page

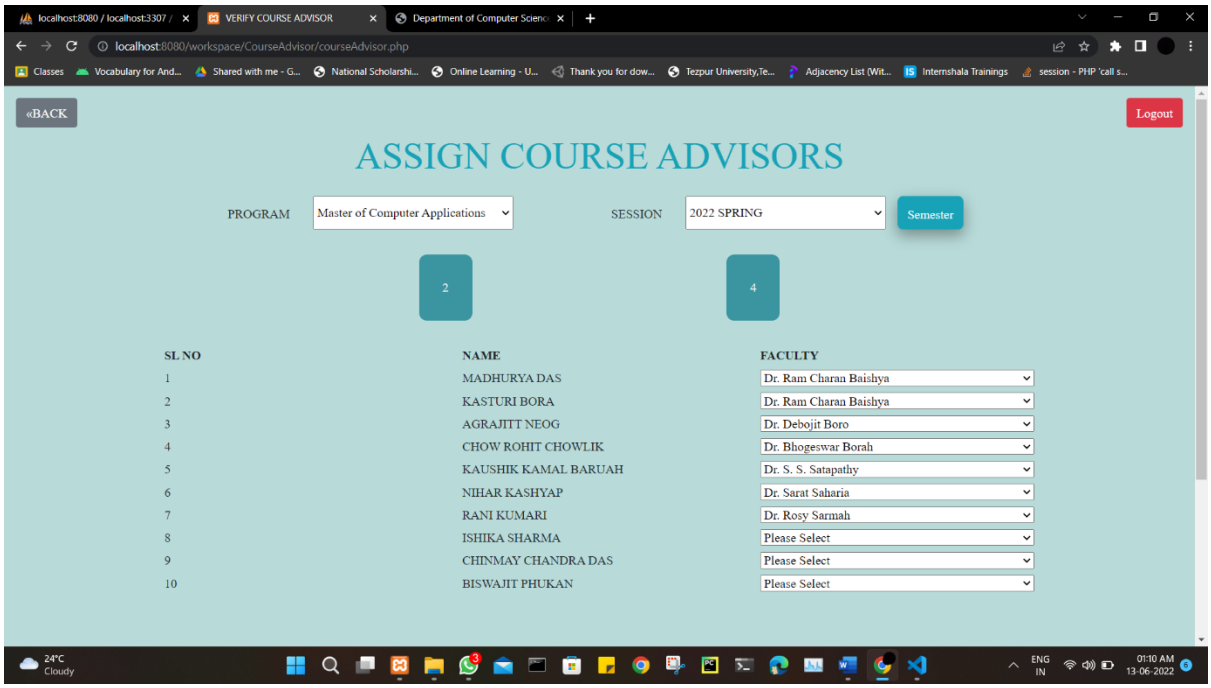


3. HOD Dashboard Page after login by HOD of Computer Science and Engineering Dept

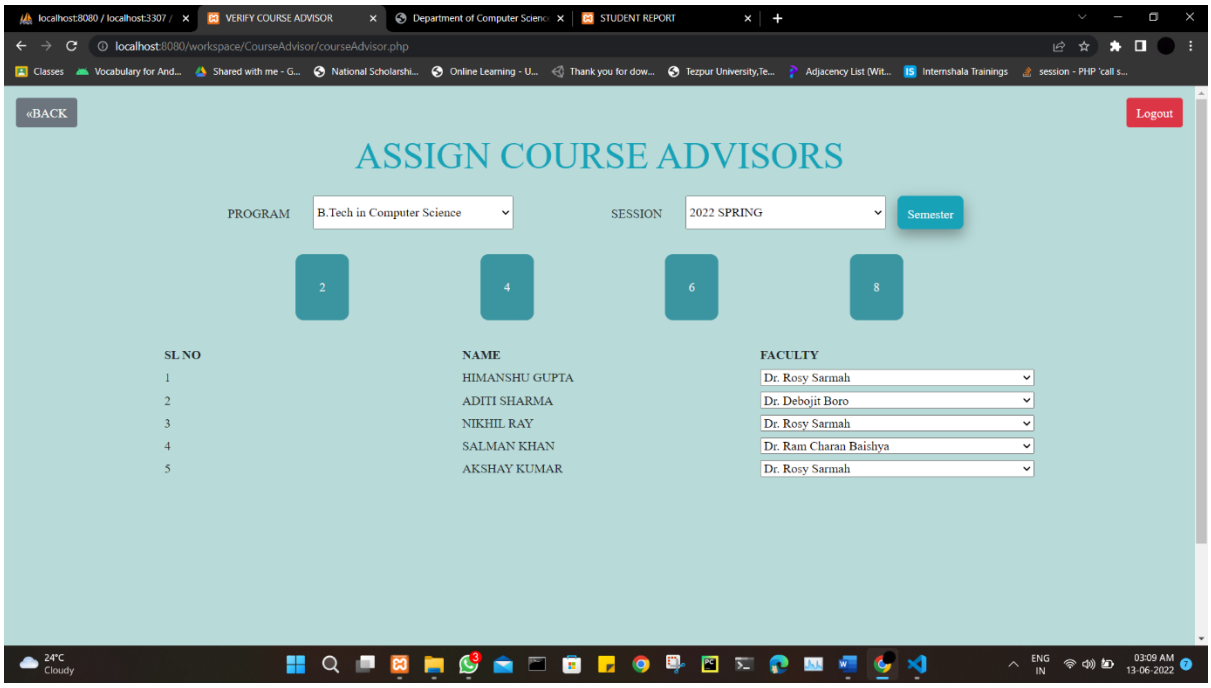
4. Course Faculty Assign Page (Faculties are assigned to Courses for the current semester)



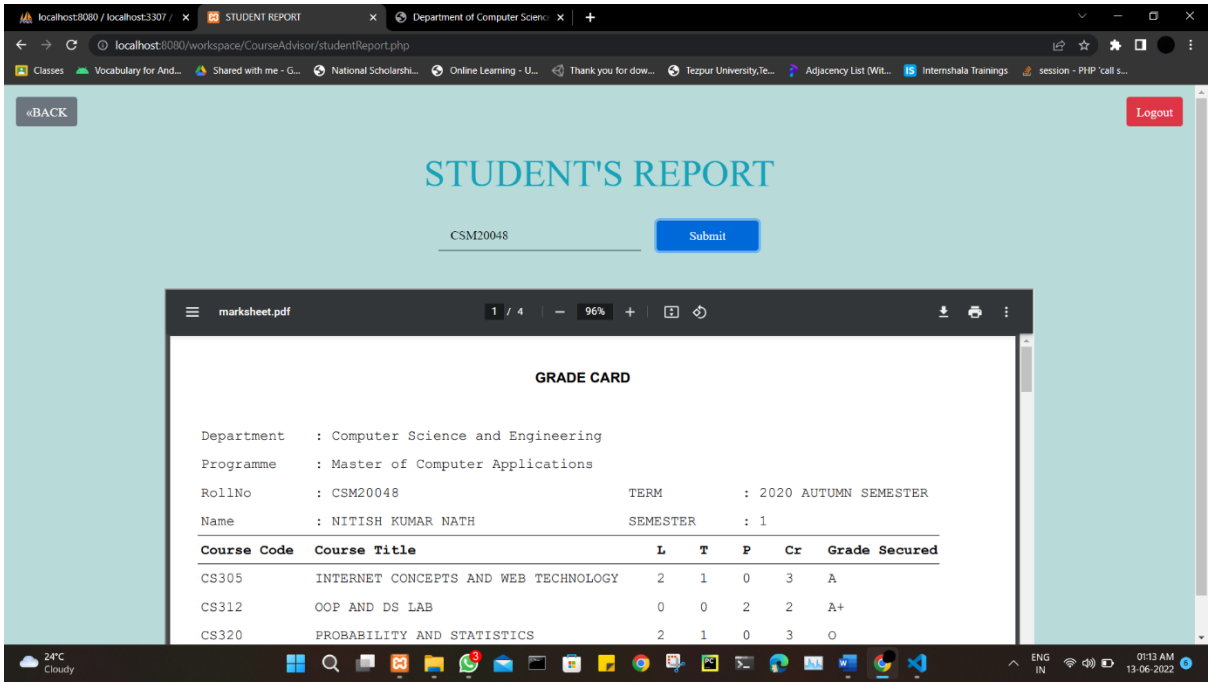
5. Assign course advisors page (After selecting program as Master of Computer application and Session as 2022 SPRING)



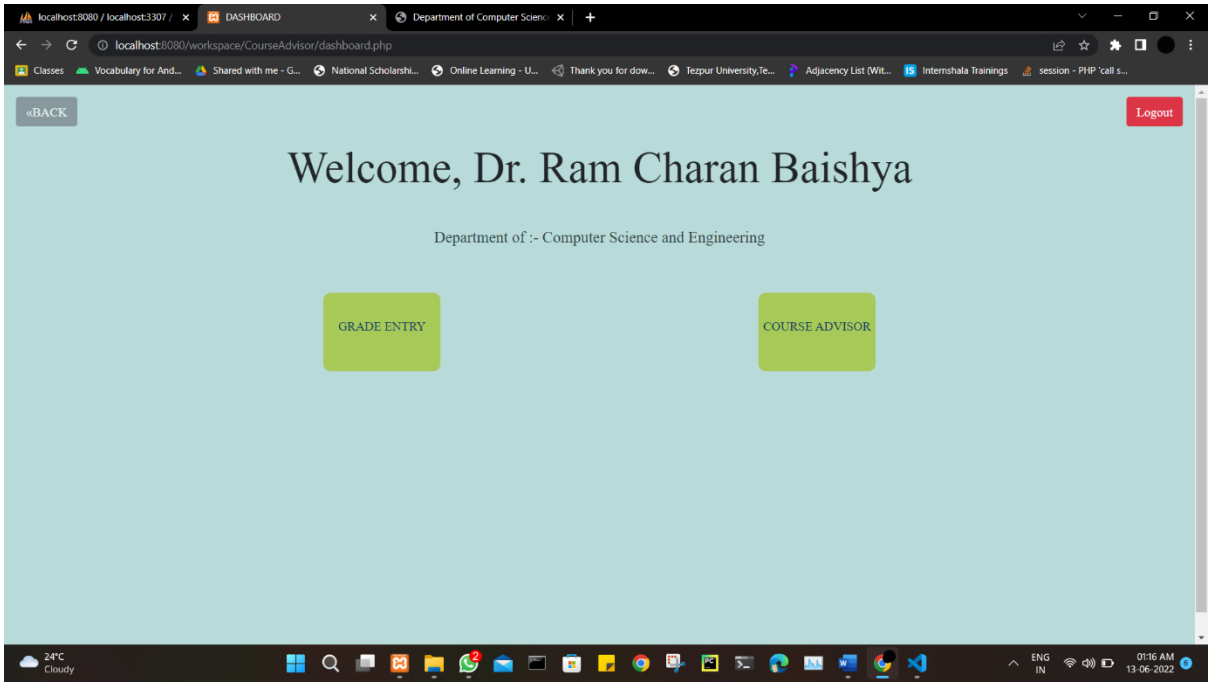
6. Assign course advisors page (After selecting program as Btech in Computer Science and Engineering and Session as 2022 SPRING)



7. Students reports page



8. Dashboard Page for Course Advisor (Faculties)



9. Verify student Course registration page

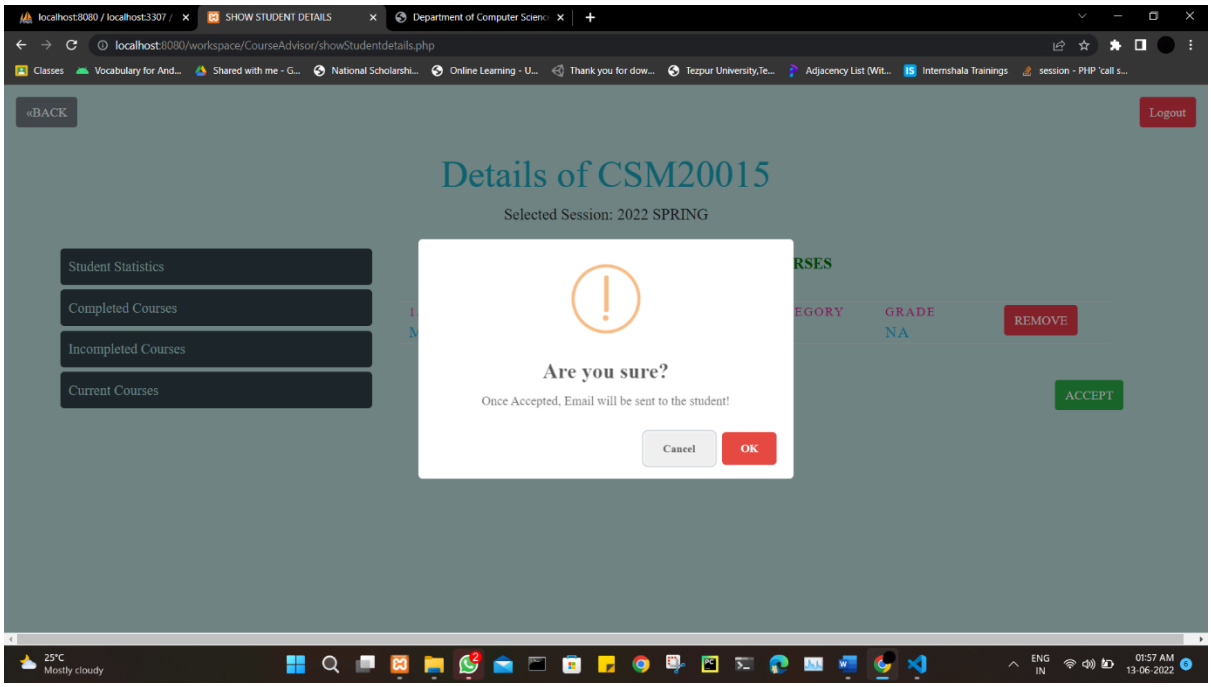
10. Show student Details (After clicking student statistics)

11. Show student Details (After clicking completed courses)

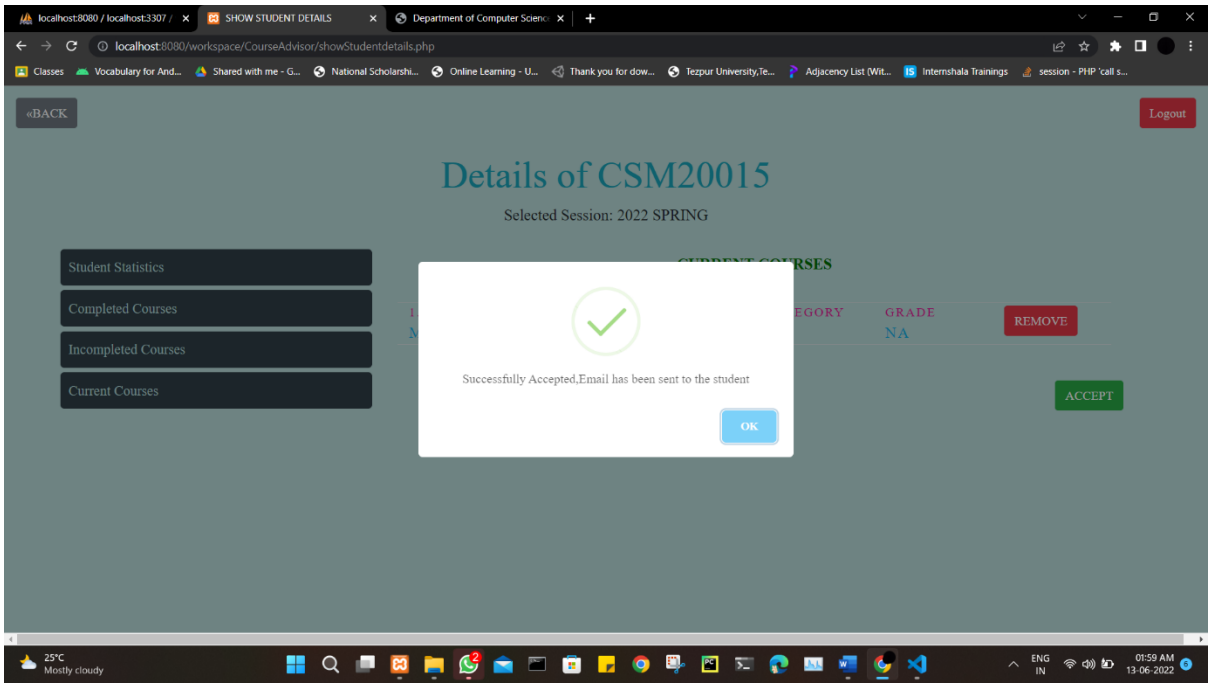
12. Show student Details (After clicking incomplete courses)

13. Show student Details (After clicking current courses)

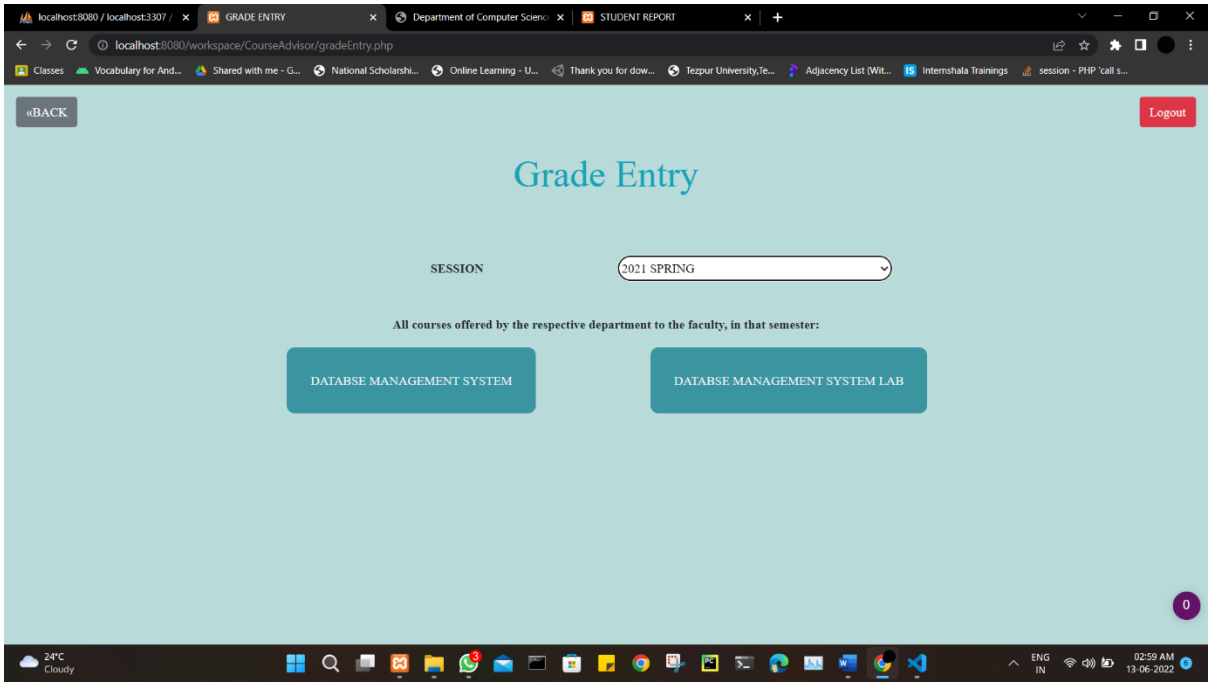
14. Show Students page (after course advisor clicks the accept button)



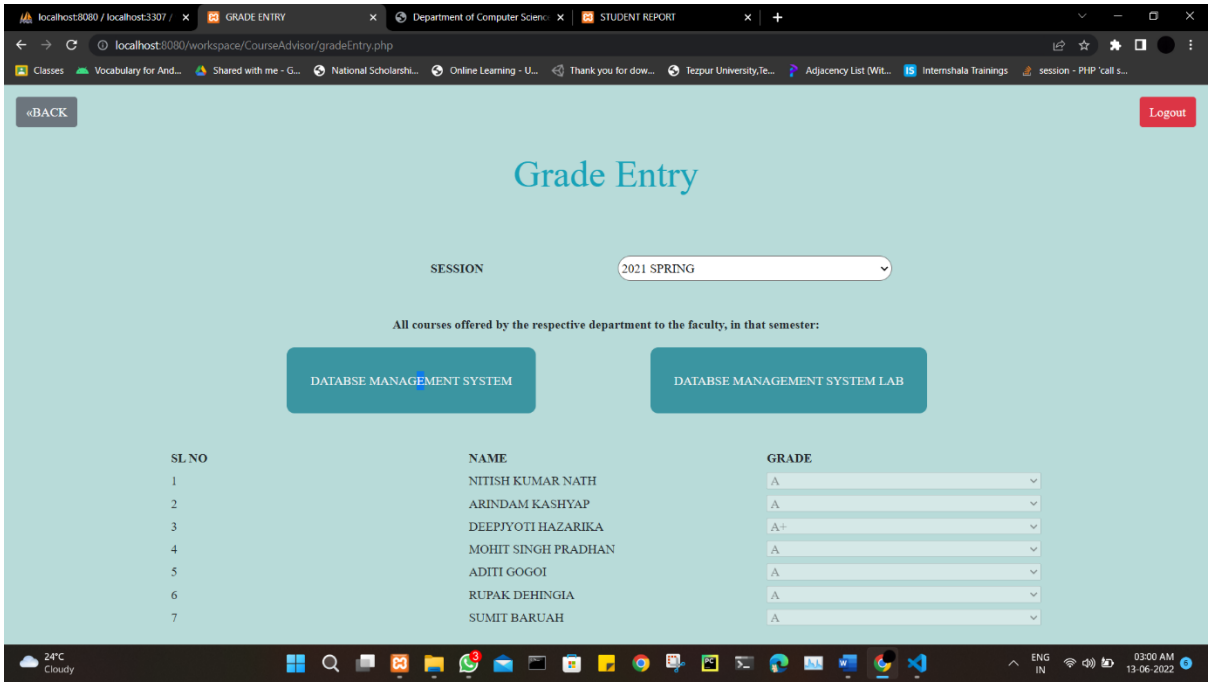
15. Show students page (after course advisor clicks ok, an email will be sent to the student)



16. Grade Entry page (Courses are assigned to the faculty in that session are shown)



17. Grade entry page (faculty can provide grades to the student)



Chapter 7

Security Measures

In the “Implementation of Course Advisor” some of the major security measures that implemented till now are:

- Any page that can only be accessed with proper login details will not be accessible directly from the URL. If someone tries to open any page with the URL, it will redirect to the login page.
- User must enter the proper login details for login to the system.
- We implemented measures to ensure that no special characters are accepted in the insert field which may result in SQL injection.

Chapter 8

SYSTEM TESTING

8.1 Unit Testing

We have tested each module individually and corrected them as requirement raised. For the purpose of unit testing, we created some random test data on our own and tested the system by using those test data. We have inserted erroneous as well as correct data and checked the behaviour of the system. Some of the test cases used in unit test are listed below. We executed the system and tested each test case and compared the expected result with actual result and did the rectification wherever required.

- Module: Login

Test Case	**Expected Result**
Login with no credentials	Access denied. Error message
Login with invalid credentials	Access denied. Error message
Login with valid credentials	Access granted.

- Module: Search assigned students to the course advisor

Test Case	**Expected Result**
Empty Field	No result
Select session but no students assigned	No data Found
Select session and students was assigned	Students are displayed

- Module: Check the status of Acceptance of the student course registration

Test Case	**Expected Result**
Student accepted by the course advisor	Status change to accepted
Student not accepted by the course advisor	Status remains as not accepted

- Module: View the student's academic details

Test Case	**Expected Result**
No data of student	Empty result
Student's data exists	Show students data

- Module: show students in the grade entry

Test Case	**Expected Result**
Student course registration is accepted	Show student
Student course registration is not accepted	Student is not shown for grade entry

- Module: send email to student

Test Case	**Expected Result**
Student course registration is accepted	Send email to student
Student course registration is not accepted	No email is sent to student

- Module: assign faculties to course

Test Case	**Expected Result**
Duplicate entry is inserted	Inform user that duplicate data is selected
Correct data is inserted	Faculties are assigned to the course

- Module: show student report

Test Case	**Expected Result**
Valid enrollment number entered	Show the reports in pdf format
Invalid enrollment number is entered	Show the output as “Invalid roll number”

8.2 Integration Testing

After testing each module individually, we tested complete system as a whole, and we found the system is working in sync with no error.

8.3 System Testing

Some of the user requirements mentioned in the SRS document could not be achieved due to the time constraint and due to lack of technical know-how.

Chapter 9

CONCLUSION AND FUTURE SCOPE

Implementation of Course advisor is a web-based application for providing an interface which facilitates the assigning of course advisor to the students who helps the students in their course registration process by choosing suitable courses based on their previous academic results. Course advisors can modify the courses registered by the students for the current session. Course advisors can also view the courses assigned to them and provide grades to the students who are registered under those courses. Another user of the system is Head of Department, who can assign faculties to the courses and view the faculties assigned to the courses in the previous sessions. HOD's can assign course advisors to the students of different programs and can also view the faculties assigned to the students in the previous sessions. We have also provided a feature where HOD can view the students report in a pdf format.

Throughout this project we got to learn a lot about the issues of HTML, CSS and Bootstrap. We got to learn about PHP, JavaScript and jQuery and about its various functions which we have used in the application. We also got to learn how to use the object-oriented approach of MySQL.

This application currently only has faculties and HOD modules. So, in future student modules can also be implemented. The constraint- any general user of the system could open only a window in one computer can be implemented in future. The feature of uploading a file containing details of employees of Tezpur university, which will automatically insert all the details in a bulk manner with the help of PHP function can also be implemented in future, which will surely reduce a lot of time.

Chapter 10

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[3] https://www.getbootstrap.com/docs/4.0/components/navbar/

[4] https://www.w3schools.com/php/

[5] https://www.javatpoint.com/php-tutorial

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