

IUBAT-Online Learning Management System for Kodeeo Limited.

A Practicum Report Submitted By

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ID: 19103108

A Partial Fulfillment of the Requirements

for the Award of Bachelor of Computer Science and Engineering (BCSE)



Department of Computer Science and Engineering
College of Engineering and Technology
IUBAT – International University of Business Agriculture and Technology

Spring 2023

Development of Online Learning Management system for

Kodeeo Limited

Khadija Rahman Riya

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A Practicum in the Partial Fulfillment of the Requirements for the
Award of Bachelor of Computer Science and Engineering (BCSE)

The project has been examined and approved,

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Supervisor

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IUBAT – International University of Business Agriculture and Technology

Spring 2023

Letter of Transmittal

15th April, 2023

To

The Chairman,

Practicum and Placement Board

College of Engineering and Technology - CEAT IUBAT

International University of Business Agriculture and Technology

4 Embankment Drive Road, Sector - 10 Uttara Model Town, Dhaka-1230, Bangladesh

Subject: Letter of Transmittal.

Dear Sir,

With all due respect, I would like to approach you and say that it is a great opportunity as well as immense pleasure for me to present my report, "IUBAT Online Learning Management System for Kodeeo Limited." in order to complete my Practicum course.

Undoubtedly, working on this project gave me an excellent opportunity to put my theoretical knowledge into practice and to gain greater radiation to the business culture of a famous company.

I'm now eagerly awaiting your kind comments on my project report. If you kindly review my report and evaluate my performance, I will be immensely thankful to you. Thank you

Yours sincerely,

Khadija Rahman Riya

ID:19103108

Program:BCSE

Student's Declaration

I am Khadija Rahman Riya a student in the BCSE (Bachelor of Computer Science and Engineering) program at the College of Engineering and Technology (CEAT) of the International University of Business, Agriculture, and Technology.

I am announcing that this report on the creation of an IUBAT Online Learning Management System for Kodeeo Limited has been written to satisfy the requirements of the CSC 490 (Practicum) internship and a portion of the BCSE (Bachelor of Computer Science and Engineering) program.

I am the author of the project and report on the Development of IUBAT Online Learning Management System for Kodeeo Limited Each module and step in this project's process was created after thorough research on the internet.

It wasn't developed for any other objectives or presentations.

Khadija Rahman Riya
Student ID: 19103108

Supervisor's Certification

This is to confirm that Khadija Rahman Riya, ID number 19103108, of IUBAT - International University of Business Agriculture and Technology, has finished a practicum report on "Development of IUBAT-Online Learning Management System for Kodeeo Limited" in partial fulfillment of the practicum defense course requirement. The report, which was created with my assistance, serves as an overview of the successfully completed task. No portions of this report have, to the best of my knowledge and according to her assertion, any degree, diploma, or certification application has been submitted anywhere.

She is now able to turn in the report. I hope all of her future initiatives are successful

ASM Shakil Ahamed
Supervisor and Lecturer
Department of Computer Science and Engineering

IUBAT- International University of Business Agriculture and Technology

Acknowledgments

It gives me great pleasure to use this opportunity to express my gratitude to a select group of individuals who have helped, motivated, guided, and supported me throughout my practicum. First and initially, I want to express my gratitude to my parents for providing the immeasurable innumerable support and inspiration I needed to achieve this magnificent milestone in my life.

IUBAT-International University of Business Agriculture and Technology's Dr. Hasibur Rashid Chayon, who is my co-supervisor and the department's coordinator, has given me the opportunity to work on this project.

I want to express my gratitude to my faculty manager ASM Shakil Ahamed who gave me the chance to submit this report IUBAT - International University of Agricultural Business and Technology for giving her informative recommendations and counsel at any time, in any circumstance. Only with his appropriate direction will I be able to write my report effectively and efficiently.

My courage and resolve to successfully complete the internship and project were strengthened by their constant support and encouragement

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Chapter: 01

Organizational Part

Chapter: 02

Project Introduction

2.1 Introduction: An internship is a professional learning career that offers a purposeful, realistic career related to a student's learning field or career interest. The internship gives the student the opportunity to explore career and development, and to learn new skills. Helps the student to develop and achieve learning goals. This chapter attempts to describe the objectives, scope and all the related topics of initialization period of this project.

2.2 Project Overview: IUBAT-Learning Management System is a Web based application that works within a centralized network. This project has been done for the completion of practicum course. The user will use this project as a centralized system for students who will buy the course, organize the course that can be found on the system, show the available course that can be purchased by the student. In addition, the system will have the records of enrollment student, student can see the enrolled course. This report is prepared based on internship, I am doing this project at Kodeeo Limited, Uttara.

2.3 Background Study: We can find different types of management software to make our everyday tasks smooth and easy. The company where I am doing my internship is basically concerned about the making of daily life & financial related management software. As day by day everything is getting online depended so I thought of working an Learning Management System for the student who wants to gather extra knowledge from online course. I have studied on previous many management systems to gather knowledge about the usability the user-friendliness and perquisites of the system that can attract any normal consumer. So, by studying on them found some points those can be implemented on a new system to make the system more advantageous to the ordinary people which I will implement in my system.

2.4 Objectives: Online Learning Management system deals with the student by online. The design of this system makes it simple for users to discover the information they're looking for. The system goal is to be as much user friendly as possible so that anyone can use the system efficiently even if he had no knowledge about computer system. Online Learning Management system will reduce manual learning system complexity, as the all data will be stored in organized format in online database. This system will provide up to date information of the courses, student as well as teachers record. The individuals 7 that desire to learn anything may benefit most from this approach, which is its major goal also easy, reliable, user friendly, and corrective. Moreover, less time consuming as compared to manual learning. This system also provides report of the completed course which can be generated automatically. The main objective of this system is to make a system to manage all courses, Teachers, student which can reduce the manual learning complexity for what they want to learn, giving services easy and user friendly.

2.4.1 Broad Objective: This project's main goal is to put my academic training to action by creating an IUBAT-Online Learning Management System for Kodeeo Limited.

2.4.2 Specific Objective: The Specific Objectives for this project has given bellow:

This system can manage courses students, and Teacher's information. And can add course, category, Teacher. Can delete course, students, Teacher also can update their information.

This system will record students, Teacher's information to provide a report to the admin.

Student can enroll course, claim certificate and give feedback. ➤ This system can manage course and payment information.

Student can give payment through Bkash.

This system will provide a report to the admin of the transaction.

2.5 Proposed System benefits: The proposed system will have benefits that the whole system going to be automated. Previously all the online Learning Management System records were collected stored in a physical location and file. This system will store the data automatically and organize the data according to the data type for better efficiency of the management. More system benefits are

User-friendly to use interface to interact with the system.

Recording of the enrolled course details.

Organized data records, which will be stored in online database.

Enrolled course easily through online to gather more knowledge and self-betterment.

2.6 Methodology: The development process on IUBAT-Online Learning Management System through Agile method. The procedures and processes that I followed to develop this system are clearly described in the analysis and design chapter.

2.6.1 Data Sources :

The sources of information used in this project are as follows:

Primary.

Secondary.

Primary Data: Within the university students, primary data are produced. The core data was generated using the students practical experience, observation, and face-to-face interviews with students, teachers, and our own web administrators. The major data is actually gathered through hands-on experience, observation, and face-to-face interviews with both operators and users.

Secondary Data: Secondary data is collected through the real life experience, studying some article and information are collected through the internet. Studying various publications, newspapers, research papers, and the Internet are used to obtain secondary data. I was able to better grasp the project thanks to information, figures, and statistics I gathered from various websites and sources. A primary source, which is the original source of the material under discussion, contrasts with a secondary source.

2.7 Process Model: The project is using an Agile model. A software development strategy built on a continuous development cycle is referred to as the Agile model process. Faster division of tasks into smaller copies or pieces avoids direct long-term planning. The client establishes the project's requirements and scope at the beginning of the development cycle. Each step is covered in detail in advance. For the Agile process paradigm, each repetition is seen as a temporary "framework," which typically lasts one to four weeks. Project risk can be decreased and the amount of time needed for project delivery can be decreased by breaking the project up into smaller pieces or phases. In each review, a team goes through the entire software development life cycle, which entails planning, requirements analysis, design, coding, and testing before a usable product is presented to the client. Models of repetitive and incremental processes are integrated into an agile paradigm.

The followings are the steps involved in the aging SDLC models:

- Collecting requirements
- Analyzing of Requirements
- Design
- Coding

- Individual unit testing
- Testing for acceptability

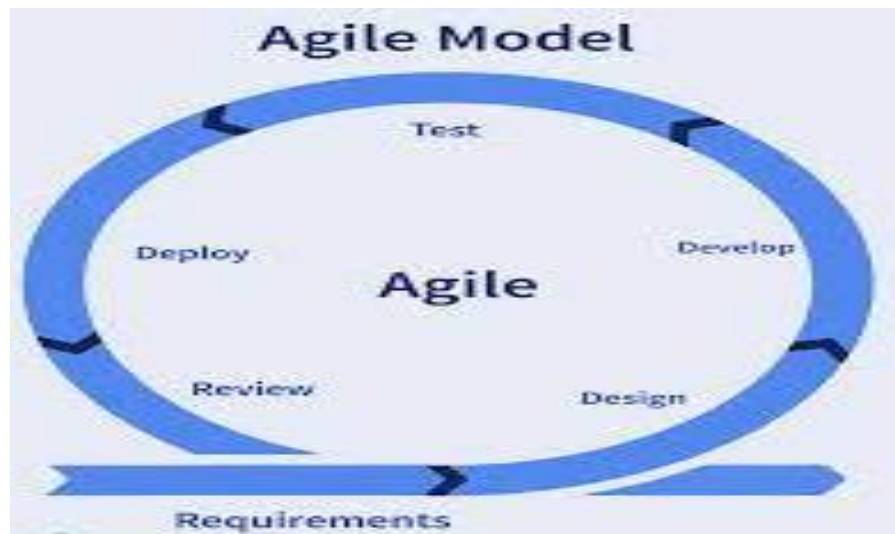


Fig 2.1: Agile Approach Model

2.7.1 Advantages of Agile Approach Model:

- It is a realistic approach to code development.
- Promotes cooperation and cross teaching.
- Functionality are often developed instantaneously and shown.
- Resource necessities are minimum
- Delivers early partial operating solutions.
- Suitable for fastened or ever-changing necessities.
- Good model for environments that amendment steady.
- Minimal rules, documentation simply used.
- Enables co-occurring development associate degree delivery among an overall planned context & little or no designing needed.

2.8 Feasibility Study:

Feasibility study determines whether that solution is feasible or achievable for the organization.

There are three major areas of feasibility study -

- Technical feasibility
- Economic feasibility
- Operational feasibility

2.8.1 Technical feasibility:

Technical feasibility addresses concern about hardware capability, reliability and availability and the skills of the development team. I found that this model is technically feasible, because the following lines can develop this. To develop this project, need a high-level programming language like HTML,CSS, Bootstrap, and Larval Framework of PHP. For database such as Xampp Server. To store data and an IDE (Sublime Text, VS code or PHP storm) need a cloud server and a computing device like a computer or Smartphone with a simple configuration and data connection. All the technologies, which are mention above, is ready to use. Therefore, our project is technically feasible.

2.8.2 Economic feasibility

The cost effectiveness of a new system is determined by its economic feasibility. My software is economically feasible. As I mention I need only one operating system and a browser. So, the cost will be less. On the other way, this will reduce our paper cost. Because I am using a database to store all the data. From customer side, when any new customer wants to take a look that what type of loans and which bank is suitable, that time they do not need any money to pay. From bank side, when bank will operate the system, they do not need to pay any money. So, I can say that this software is economically feasible.

2.8.3 Operational feasibility

Concerns concerning user acceptability, management support, and the requirements of entities and elements in the nursery's external environment are addressed by operational feasibility. It is operationally feasible. Anyone can easily understand the process of our software. They need not any extra training to understand it. Member can get their service by sign in and log in us site. Therefore it is operationally feasible.

Chapter: 03

Requirements Engineering

3.1 Requirement Analysis

The requirement analyst can translate the knowledge, operation, and behavior of the requirements analyst into data, architectural, interface, and component level designs. Using needs analysis, the software developer can clearly explain the information, function, and behavior in data, structures, visual interfaces, and component-level designs. The required analysis is completed throughout the activity's subsequent stages. The procedure of identifying the functions and limitations that a system must operate and evolve under. Requirements are a reflection of what the user expects from a system to perform, such as control a device, issue a command, or retrieve data.

3.2 Requirements Engineering

Requirement's engineering is, as its name suggests, the engineering discipline of creating user necessities and specifying software package systems. There are several definitions of requirements engineering and all of them share the concept that requirements involve checking out what user wish from a software system of a computer system and understanding what their desires mean in terms of style. Requirement's engineering is closely associated with software system engineering that focuses a lot of on the method of planning the system that users wish.

- User requirements
- System requirements
- Functional requirements
- Non-Functional requirements
- Specification for each requirement

3.2.1 User Requirements

Admin

1. Admin can log in.
2. Admin can add, delete & update course category.
3. Admin can add, delete & update teacher.
4. Admin can add, delete & update Student.
5. Admin can add, delete & update Course.
6. Admin can manage payment
7. Admin can generate report

Student

1. Student can do registration in website.
2. Student can log in in website.
3. Student can see all categories.
4. Student can see all courses.
5. Student can enroll course.
6. Student claim the certificate.
7. Student can see his/her profile.
8. Student can see enrolled course.
9. Student can do payment.
10. Student can give feedback

Teacher

1. Teacher can do registration.
2. Teacher can do login.
3. Teacher can see student list who are enrolled his /her course
4. Teacher can manage the courses.
5. Teacher can give feedback.

3.2.2 System Requirements

Admin:

1. Admin can login

- First, admin will login into the system.
- Check whether it is admin or user.
- If admin will give wrong input, then system will show error message. **2.**

Admin can add, delete & update course category.

- Admin will add the category of the service type.
- Admin will edit the category and update the category.
- Admin will delete the category.
- Admin will view the category list.
- Admin can view single category details.

3. Admin can add, delete & update teacher.

- Admin will see the teacher list.
- Admin will add new teacher.
- Admin will edit and update the instruction information.
- Admin will delete teacher.
- Admin can view single teacher information.

4. Admin can add, delete & update Student.

- Admin will see the student list.
- Admin will add new student.
- Admin will edit and update the student information.
- Admin will delete student.
- Admin can view single student details.

5. Admin can add, delete & update Course.

- Admin will see the course list.
- Admin will add new course.
- Admin will edit and update the course information.
- Admin will delete course.
- Admin can view single course details.

6. Admin can manage Enrollment.

- Admin can see enrollment list.
- Admin can delete enrolled course.
- Admin can view single enrollment course details.

7. Admin can manage Certificate and Feedback.

- Admin can see certificate.
- Admin can give certificate.
- Admin can manage feedback.

8. Admin can manage Payment.

- Admin can see the payment method.
- Admin will manage payment.

9. Admin can generate report.

- Admin can see the report.
- Admin can generate the report.

Student:

1. Student can do registration in website.

- Student will click the registration button on website.
- Student will give his information in the form to complete the registration.
Student will click the submit button.

2. Student can log in in website.

- Student will click on the login button on website.
- Student will give his valid email and password.
- Student will click the submit button and get a notification login successful. If email and password invalid then show an error message.

3. Student can see all categories.

- Student will login into website.
- Student will see the categories.
- Student will click view details of the category.

4. Student can see all courses.

- Student will login into website.
- Student will see the courses.
- Student will see the course content.
- Student will see the course details.

5. Student can enroll course.

- Student will login into website.
- Student will click on enroll button on the course.
- Student will give the information and fill up the form.
- Student will click on submit button.

6. Student claims the certificate.

- Student will login into website.
- After finishing the course, student will click claim certificate.

7. Student can see his/her profile.

- Student will login into website.
- Student will click on his name and see his/her information.

8. Student can see enrolled course.

- Student will login into website.
- Student will click on his/her name and see his information and enrolled course.

9. Student can do payment.

- Student will click payment button.
- Student will select payment method.
- Student will click submit button.

10. Student can give feedback

- Student will click feedback button.
- Student will write his/her feedback.

Teacher

1. Teacher can do registration.

- Teacher will click the registration button on website.
- Teacher will give his information in the form to complete the registration.
- Teacher will click the submit button.

2. Teacher can do login.

- Teacher will click on the login button on website.
- Teacher will give his valid email and password.

- Teacher will click the submit button and get a notification login successful.
- If email and password invalid, then show an error message.

3. Teacher can see student list who are enrolled his /her course.

- Teacher will login into website.
- Teacher will click on his/her name.

4. Teacher can manage the courses.

- Teacher will login into admin panel.
- Teacher will update course information.

5 Teacher can give feedback.

- Teacher will see who completed the course.
- Teacher will give feedback.

3.2.3 Functional Requirements:

AdminAdmin can maintain whole system.

Admin can manage student, Teacher information.

Admin can add, view, update and delete individual course information.

Admin view report.

Student

Student can enroll any course

Student can view enrolled course.

Student can update student's profile.

Teacher

Teacher can see enrolled student list

Teacher can update Teacher's profile.

3.2.4 Non-Functional Requirements:

- Admin can sign in with their email address and password. Student and Teacher can log in by using their email and password.
- The entire system can only be maintained by the admin.
- Only admin can maintain cancellation of category.
- Only Windows 10 is compatible with this system.

3.2.5 Hardware Requirements:

The hardware provided is merely a starting point for a system's smooth and comfortable operation; it is by no means a minimum requirement to run the system. This also takes into account the potential volume of traffic that the server may experience when it is in operation.

3.3 Use Case Diagram of the System

3.3.1 Vital parts of a use case

- **Actor:** An actor is mostly external to or outside of the system.
- **Use case:** An element of the system that represents a function or behavior is called a use case. It is illustrated with an oval shape and given a purpose.

○ **System Boundary:** A system is represented by a rectangle that shows the sequence of activities that take place whenever a user interacts with the system. When viewing large systems, this optional function is helpful.

○ **Relationship** Relationships are associations between use cases and actors.

Use Ca

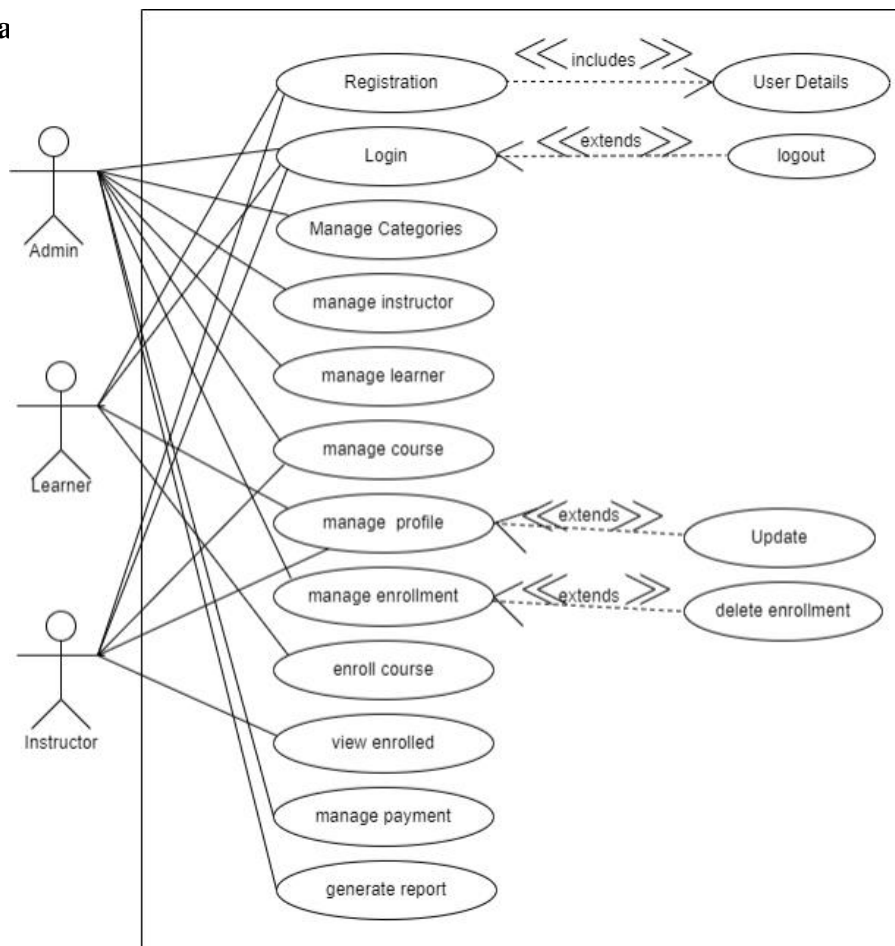


Figure 3.1: Use case diagram of IUBAT-OLMS

3.8.1 Use Case Text

The project's use case diagram aims to illustrate the many a system's various role categories and how they interact with the system "Online Learning Management System."

User Title: Registration

Actor: Student and Teacher

Description: Student and Teacher can register to the system by providing the necessary information to the system.

User Title: Login

Actor: Admin, Student and Teacher

Description: Admin can login into the system. Student and Teacher can also login into the system.

User Title: Manage Categories

Actor: Admin

Description: Admin can add delete and update category information.

User Title: Manage Teacher

Actor: Admin

Description: Admin can view, delete and update Teacher information.

User Title: Manage Student

Actor: Admin

Description: Admin can view, delete and update Student information.

User Title: Manage course

Actor: Admin and Teacher

Description: Admin can view delete and update course. Teacher can create, view, delete and update course.

User Title: Manage Profile.

Actor: Student and Teacher

Description: Student and Teacher can view and update their profile.

User Title: Manage enrollment

Actor: Admin

Description: Admin can handle enrollment.

User Title: Enroll course

Actor: Student

Description: Student can enroll course.

User Title: View Enrolled

Actor: Teacher

Description: Teacher can view who are enrolled the course

User Title: Manage payment

Actor: Admin

Description: Admin can handle payment.

User Title: Generate Report

Actor: Admin

Description: Admin can generate report.

Chapter: 04

System Planning

The project's characteristics are displayed in the chapter on project planning. The next chapter also Charts illustrating the effort distribution, function point estimation, and project scheduling.

4.1 System Project Planning:

Before beginning any project, it is required to estimate the work that needs to be done, the resources that will be needed, the time it will take to complete, and to assess whether the project is feasible or not. Software project management commences with a set of activities that collectively called software project planning. I estimate the work that needs to be done, the resources that will be needed, the time it will take to complete, and ultimately I examine the project to see if it is practical or not through the software project planning. The following activities of software project planning that have followed in this project are:

- System Project Estimation
- Function Oriented Metrics
- Process Based Estimation
- Effort Distribution
- Task Scheduling
- Project Schedule Chart
- Cost Estimation

4.1.1 System Project Estimation:

The accuracy of a software project estimate predicated based on a number of things:

- accurately calculated the size of the product to construct.
- The capacity to convert the estimation of size into work hours, calendar days, and money.
- the measure which the project schedule accurately reflects the engineering team's or software team's skills.
- The consistency between the product requirements and the setting in which the software engineering process is carried out.

The most crucial factor I should take into account when working on a software project is software size estimation. Planning issues, financial problems, and other issues will occur if the size of the software

is not accurately estimated. As the project develops, I must ensure that the program's reach is defined before determining the software size. The most crucial factor I must take into account while working on the software project is software size estimation. Scheduling issues, economic difficulties, and other issues can arise if the software size is not calculated correctly. Before determining the software size, I must verify that the program scope is constrained as the project develops.

4.1.2 Function Oriented Metrics

Compared to software values, information domain values place less emphasis on performance-based rating. By contrasting five information domain properties, function points are calculated. Comparing the five knowledge base components yields performance scores.

The information domain values are as follows:

- **External inputs (EI)** – The program adds up every user input that provides distinct application-oriented data. You should distinguish between inputs and enquiries.
- **External outputs (EO)** – are the number of user outputs that provide data targeted toward applications. Information about the user is collected.
- **Number of external inquires (EQ)** – An online request that generates an online output as a result of a swift software response is referred to as an inquiry. The total number of distinct inquiry was determined.
- **The number of internal logical files (ILF)** – for each logical master file was counted. Table in the database that the software sends input to and modifies.
- **External interface files (EIF)** – The number of machine-readable interfaces being used transfer data to other systems was calculated. The relevant table location contains the domain weights, which are predetermined and readily available.

Weights can be categorized into three groups based on how well the system works. They are basic, typical, and complex. Each component is a part of the broader system, which is a complex system. After the data has been gathered, a complexity number is given to each count. The following formula is used to calculate the number of FPs (Function Points), Value Adjustment Factor (VAF) = $(0.65 + (.01 \times \text{TDI}))$

$$\text{UFP} = \text{UFP (Data Fn)} + \text{UFP (Transaction Fn)}$$

$$\text{Adjusted Function Point Count (AFP)} = \text{UFP} \times \text{VAF}$$

$$\text{Effort for PHP} = \text{AFP} \times \text{Productivity}$$

4.2 Function Point Estimation:

The functionality with user input and output is displayed in this table.

Table 4.1: Functional point Estimation (Admin)

Functionality	Input	Output
Login	email, password	Enter the admin dashboard
Manage Teacher& Student	Click on Teacher/Student	View ,Update & Deleteall
Manage Course Category	Click on Create, View, Edit,	Create new category, view , update,
Manage Course	Click on Course	List showing, view, update,
Manage Enrollment	Click on enrollment	View, update, delete of all

Table 4.2: Function Point Estimation (Student)

Functionality	Input	Output
Registration	name, email, password, phone number, date of birth, address	Added into database table
Login	email, password	Enter the user panel
Make Enrollment	Click on enroll now button and enter details and click on submit	Show success message
View profile with enrollment status	Click on Username button	show profile with enrollment status
Make payment	Select payment method, amount Enter submit button	Show success message

Table 4.3: Function Point Estimation (Teacher)

Functionality	Input	Output
Registration	name, email, password, phone number, address	Added into database table
Login	Email , password	Enter the teacherpanel
Create Course	Click on create new course button	Show course detailsform
Give Feedback	Click on feedback	Show feedback descriptionbox
Update course	Enter Edit button & fill-up update form	Show update successful

4.3 Identifying Complexity

The task of counting function points should be included as part of the overall project plan. This is counting function points should be scheduled and planned. The first function point count should be development to provide sizing used for estimating.

Transactional Functions:

4.3.1 External Inputs [EI]

4.3.2 External Outputs [EO]

4.3.3 External Queries [EQ]

Data Functions:

4.3.4 Internal Logical Files [ILF]

4.3.5 External interface files [EIF]

Also, FETs, DET, RET and FTR have been applied for the analysis of data function and

Table 4.4: Identifying Complexity (Admin)

Transition Function	Field/ file involvement	FTRs	DETs
Login(EI)	Fields- email, password	1	2
Manage Student information (EI)	Fields- name, address, image, email mobile, date of birth, gender	1	6
Manage Teacher information (EI)	Fields- -name, address, image, email, password, mobile, role, designation, date of birth	1	9
Manage course category (EI)	Fields- category ID, category name, status, image, description	1	5
Manage Enrolled(EI)	Fields- user id, course id, enrollment date, amount, payment date, payment type, transaction id File- enrollments	1	7

Table 4.5: Identifying Complexity (Student)

Transition Function	Field/ file involvement	FTRs	DETs
Registration (EI)	Fields- name, image, designation, role, email, mobile, address, date of birth, password File- users	1	9
Login (EI)	Fields- email, password File- users	1	2
Enrolled course (EI)	Fields- user id, course id, enrollment date, amount, payment-date, payment-type, transaction-id File- enrollments	1	7
View enrolled (EI)	Fields- user id, course id, enrollment date, amount, payment-date, payment-type, transaction-id File- enrollments	1	7

Table 4.6: Identifying Complexity (Teacher)

Transition Function	Field/ file involvement	FTRs	DETs
Registration (EI)	Fields- name, image, designation, role, email, mobile, address, date of birth, password File- users	1	9
Login (EI)	Fields- email, password File- Users	1	2

Table 4.7: Identifying Complexity (DF)

Transition Function	Field/ file involvement	RETs	DETs
Registration(ILF)	Fields- name, image, designation,role, email, mobile, address, date of birth, password File- users	1	9
Login (ILF)	Fields- email, password	1	2
Manage student information (EI)	Fields- name, address, image, email mobile, date of birth, gender	1	7
Manage Teacher information (EI)	Fields- -name, address, image,email, password, mobile, role, designation, date of birth	1	9
Manage Course category (EI)	Fields- category ID, category name, status, image,description File- Categories	1	5
Manage Enrolled(EI)	Fields- user id, course id, enrollment date, amount, paymentdate, payment type, transaction id	1	7
Enrolled course (EI)	Fields- user id, course id, enrollment date, amount, payment-date, payment- type,transaction-id File- enrollments	1	7

View enrolled (EI)	Fields- user id, course id, enrollment date, amount, payment- date, payment-type, transaction-id File- enrollments	1	7
--------------------	---	---	---

4.5 Unadjusted function point contribution

Table 4.10: Unadjusted Function Point Contribution for Transaction Function

Transition Function	FTRs	DETs	Complexity	UFP
Registration	1	9	Low	3
Login	1	2	Low	3
Manage Student information (EI)	1	6	Low	3
Manage Teacher information (EI)	1	9	Low	3
Manage course category (EI)	1	5	low	3
Manage enrolled (EI)	1	7	High	6
Enrolled course	1	7	High	6
View enrolled (EI)	1	7	Low	2

8.2 Performance and Environment Impact

Table 4.12: Performance and Environment Impact

General system characteristics (GSC)	Degree of Influence (DI)
1. Data communication	3
2. Distributed Data processing	0
3. Performance	4
4. Heavily used configuration	4
5. Transaction Rate	3
6. Online Data Entry	0
7. End-User Efficiency	4
8. Online update	3
9. Complex processing	0

4.7 Performance and Environmental Impact

Table 4.7: Performance and Environmental Impact

General system characteristics (GSC)	Degree of Influence (DI)
1. Data communication	3
2. Processing of Data Distributed	0
3. Performance	4
4. Frequently employed configuration	4
5. Transaction Rate	3
6. Online Data Entry	0
7. End-User Efficiency	4
8. Online update	3
9. Complex processing	0
10. Reusability	0
11. Installation Ease	3
12. Operational Ease	3
13. Multiple sites	0
14. Facilitate Change	3
Total Degree of Influence (TDI)	30

$$\begin{aligned}\text{Value Adjustment Factor (VAF)} &= (0.65 + (0.01 \times \text{TDI})) \\ &= (0.65 + (0.01 \times 30)) \\ &= 0.95\end{aligned}$$

4.8 Project Schedule Chart

Week Activities	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	W-12	W-13	W-14	W-15	W-16
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Requirements Gathering																
Planning																
Analysis																
Design																
Coding																
Testing																
Implementation																

Figure 4.1 Project Schedule Chart.

4.9 Cost Estimation

Cost estimation is the process of estimating a program's cost. There are five aspects in this project that need to be evaluated and their costs estimated. Given bellow,

- ☐ Personnel cost
- ☐ Software cost
- ☐ Hardware cost
- ☐ Other cost

4.9.1 Personnel cost-

- Number of days in a year = 365
- Number of government holidays in a year = 24
- Number of weekly holidays in a year = 52
- The project took 289 working days to complete, which is equal to 365 minus (52 + 24) days.
Number of working days overall required to complete the project per month: $289/12$, or
24.083 days.
- A company's daily operating hours = 7.5 hours.
- Working hours for the organization every month are 24.083×7.5 , or 180.623 hours.

Table 4.11: Personnel Cost

Type	No of Members	Months	Salary
Coder	1	1	10,000
Total			40,000

4.9.2 Hardware Cost-

The price of the computer utilized to do the job.

Table 4.12: Hardware cost

Name	Number	Price	Description	Total
Computer	1	50,000	Laptop	50,000

Total Hardware Cost = 50,000 TK

4.9.3 Other Cost

Table 4.14: Other cost

Name	Price
Pen and paper	200 Tk.
Mobile	100 Tk.
Transport	400 Tk.
Total	700 Tk.

4.9.4 Total Cost

Table 4.15: Total cost

Particulars	TK
Salary-	
• Coder	40,000
	40,000
Hardware Cost –	
• ASUS Laptop	60,000

Software Cost –	
• OS (Windows 10)	10,000
• MS Office 2019	8000
• Xampp	Free
	180.00
Other Costs-	
• Pen and paper	200.00
• Mobile	100.00
• Transport	400.00
	700
Total cost	Taka 159,780

Chapter: 05

Risk Engineering

A risk is an uncertain, potentially harmful scenario. The potential risks from the project should be assessed. If the risks connected with a software project are not accurately identified and evaluated, many issues may occur. It will be encountered by anyone working on a program of any kind, so it needs to be addressed.

5.1 Risk Management

The Software development teams can employ risk analysis and analysis to monitor and evaluate uncertainties. Many problems may happen during software design. Risk is a potential danger; perhaps or not happen. Whatever the result, identifying the problem, estimating the probability, It is a good idea to assess its impacts and develop an emergency plan in case an issue materializes. A set of procedures known as risk analysis and management assist software engineers in recognizing and managing volatility.

The following stages are taken to create a risk management model:

- **Identification:** The process of identifying potential risks or risks with data collection is referred to as risk assessment. There are specific tools and methods for information collection and deception. The team use both automated and human techniques to gather data and start identifying potential hazards to Web services. One of the most efficient ways to gather information from websites and Web pages is through web searches.
- **Classification:** the development procedure of a systematic model of risk classification and equity with the perceived risk factors and events in a model is known as risk classification. The team combines quantity and quality approaches to test and identify dangers on Web pages, Web sites, and hosting servers.
- **Assessment:** Risk assessment is the process of determining the relevant risk factors or the series of events that may result in harm or loss, as well as the likelihood that these occurrences will occur. “Clear, consistent, consistent, complete, complete, impartial, similar, balanced, secure, continuous, flexible, flexible, flexible, and supported by appropriate and adequate education,” said Description of the common level of risk estimation.
- **Analysis:** Risk analysis determines the possible effects of risk patterns or circumstances, the degree of potential loss, and the direct and indirect costs of recovery.

Implementation: Applying disaster Policies, practices, and processes for managing and reacting to perceived hazards are referred to as risk management. The system should evaluate the value of the products as well as the direct and indirect associated costs with minimizing loss or damage and recovering from it.

To properly maintain a web-based system, the following factors must be taken into account:

Computer and software platform, which includes updating applications and web servers, installing security units, removing unsafe resources, using firewalls, etc.

- Operational activities including renewing domain name registrations, signing contracts with respected service providers, etc.

- High availability, traffic management, and usage monitoring are all included in the configuration and maintenance of a network.

- Policies and processes for backup and archiving, such as the selection of backup media, the frequency with which it is replaced, the quantity of backups made, and the placement of preservation.

In any software project, there are numerous risk categories to be considered. This software project takes the following risk categories into account.

Project risks: The project plan is in danger from the danger. The project schedule is likely to run more smoothly and expenses will rise if these materialized. Project risks reveal potential impacts on the software project's budget, timeline, personnel, resources, and client challenges and need.

Technical risks: These dangers put the caliber and timeliness of the upcoming software production in jeopardy. Implementation could be challenging or impossible if a technical risk materializes. Potential design, use, interface, verification, and maintenance issues are indicated by technical risks. Additionally, risk factors include ambiguity of meaning, technical uncertainty, and outdated technology.

Business risks: These dangers pose a threat to the functionality of the next program. Business risks can be market risks, creating a system that no one really wants. Creating

a system that does not fit into the company's overall business plan is a strategic risk. Loss of top management's backing as a result of a shift in priorities or a change of individuals. Employee commitment, budget risk, or budget loss.

5.2 The RMMM Plan:

- **Risk Mitigation:** proactive planning to reduce risk.
- **Risk Monitoring:** evaluating whether anticipated risks materialize or not, confirming that preventative measures are being followed correctly, gathering data for upcoming risk analysis, and making an effort to identify which risks contributed to which issue.
- **Risk Management:** Steps to take if a danger has materialized and attempts to mitigate it have failed.

Type of Impact: Critical (3), Marginal (2), Catastrophic (1), and Tolerable (1) (4).

Type of Probability: quite low (75%).

Project risks: Put the project plan in jeopardy. The projects and risks mentioned below are part of my system that I need to manage.

Table 5.1: Project Risk (P01)

Project Risk (P01)		Date: 12-03-2023
Name	The requirements are modified	
Probability	Low (25%)	
Impact	Marginal (2)	
Description	Students may alter their specifications.	
Mitigation and Monitoring	The company redefines requirements in response to time or operational considerations. Regular meetings with the company will be held. This ensures that the issue our solution is meant to address is one that exists.	
Management	Both sides urgently met to discuss the objectives and requirements of the new project.	
Status	Not occur	

Table 5.2: Project Risk (P02)

Project Risk (P02)		Date: 12-03-2023
Name	Documentation of poor quality	
Probability	Low (15%)	
Impact	Catastrophic (1)	
Description	The members' paperwork is of poor quality.	
Mitigation & Monitoring	Regular meetings will be conducted to discuss ideas for documentation and potential subjects. Each meeting will also have a monitor for the documentation progress.	
Management	The responsible individual will be given the task of adding new topics or eliminating ones that are superfluous from the documentation.	
Status	observing it.	

Sable 5.3: Project Risk (P03)

Project Risk (P03)		Date: 14-03-2023
Name	Lack of Development Experience.	
Probability	Moderate (30%)	
Impact	Catastrophic (1)	
Description	The members' lack of developing experience.	
Mitigation & Monitoring	Each team member should keep an eye out for potential major weaknesses in their teammates.	
Management	To help solve issues that may occur with this risk, the team members with the highest experience in that area will be needed.	
Status	We have not yet run into such problems.	

Table 5.4: Project Risk (TR04)

Project Risk (P04)		Date: 16-03-2023
Name	Poor Comments in Code	
Probability	Low (15%)	
Impact	Marginal (2)	
Description	The system's produced code is not up to par.	
Mitigation & Monitoring	To guarantee the caliber of Comments in every code, a formal documented standard needs to be established.	
Management	To solve this issue and raise the standard of code comments, we should schedule a meeting with the development team.	

Technical Risks: quality of the final product and timeliness of the schedule are at jeopardy. These kinds of risks should be adequately managed because this is my practicum assignment.

Table 5.5: Technical Risk (TR01)

Technical Risk (TR01)		Date: 26-03-2023
Name	Computer Crash Rate (25–40%)	
Probability	Moderate (25-40%)	
Impact	Catastrophic (1)	
Description	Several factors can cause a computer to crash.	
Mitigation & Monitoring	We need to properly monitor computers. Additionally, we regularly backup our data, and we have IPS to prevent sudden shutdowns.	
Management	If our computer crashes, we'll restore the backup.	
Status	We have not yet come across such a problem.	

Table 5.6: Technical Risk (TR02)

Technical Risk (TR02)		Date: 28-03-2023
Name	Technology Doesn't Meet Specifications.	
Probability	Low (25%)	
Impact	Catastrophic (1)	
Description	The technology does not meet the customer's requirements.	
Mitigation & Monitoring	This guarantees that the specifications of the customer and the product we are manufacturing are the same.	
Management	As soon as possible, the client should be informed, and whatever actions are required to fix the issue should be taken. The development team and the student should probably meet to go over this topic in more detail.	
Status	We have not yet come across such a problem.	

Sable 5.7: Technical Risk (TR03)

Technical Risk (TR03)		Date: 29-03-2023
Name	Poor team member training abilities.	
Probability	Medium (30%)	
Impact	Catastrophic (1)	
Description	Team members' inability to train clients due to poor training skills.	
Mitigation & Monitoring	The training team needs to be well-versed in the software's overall capability. As the training session begins, the system analyst must make sure and keep an eye on it.	
Management	We need to set up a meeting with the train team so we can resolve this issue.	
Status	We have not yet come across such a problem.	

Business Risk: Endanger the capacity to successfully develop the software (market risks, strategic risks, management risks, budget risks). There won't be any traditional business risks involved in my project because I am building it independently for my practicum. As a result, it is decided that all business risks have a Low Probability.

Table 5.8: Business Risk (B01)

Business Risk (B01)		Date: 28-03-2023
Name	Insufficient Budget	
Probability	Low (10%)	
Impact	Marginal (2)	
Description	Low funding may prevent the project from being finished.	
Mitigation & Monitoring	The project requires a costly to set up streaming server. In order to lower the budget risk, services.	
Management	a more precise project goal. A fresh budget control method.	
Status	ever occurred.	

Table 5.9: Business Risk (B02)

Business Risk (B02)		Date: 02-4-2023
Name	Customers accept the system	
Probability	Low (10%)	
Impact	Critical (4)	
Description	Users are unable to trust the system.	
Mitigation & Monitoring	The software will be made with the end user in mind during development to avoid this from happening. The user interface will be created in a way that makes using the program easy and pleasant.	
Management	Users need to receive training to become accustomed to the new system. Releasing patches and bug fixes to improve user experience.	
Status	The risk has not yet occurred.	

Table 5.10: Business Risk (B03)

Business Risk (B03)		Date: 04-03-2023
Name	not paying the software cost installment.	
Probability	Very Low (05%)	
Impact	Catastrophic (1)	
Description	The cost of the software installment is not covered by the student.	
Mitigation & Monitoring	We must assure effective customer communication and the completion of the entire implementation.	
Management	Finding the cause and developing a solution would be the only available course of action.	
Status	not observed.	

Business Risk (B04)		Date: 4-03-2023
Name	Project delivery is delayed	
Probability	Very Low (05%	
Impact	Catastrophic (1)	
Description	The project might take longer than expected to complete	
Mitigation & Monitoring	The project's scope was chosen in order to take the necessary precautions to assure timely delivery.	
Management	The only option would be to approach the customer and ask for a deadline extension.	
Status	My project was finished on schedule.	

Table 5.10: Business Risk (B03)

Business Risk (B03)	
Name	not paying the software cost installment.
Probability	Very Low (05%)
Impact	Catastrophic (1)
Description	The cost of the software installment is not covered by the student.
Mitigation & Monitoring	We must assure effective customer communication and the completion of the entire implementation.
Management	Finding the cause and developing a solution would be the only available course of action.
Status	not observed.

Table 5.11: Business Risk (B04)

Business Risk (B04)	
Name	Project delivery is delayed
Probability	Very Low (05%)
Impact	Catastrophic (1)
Description	The project might take longer than expected to complete
Mitigation & Monitoring	The project's scope was chosen in order to take the necessary precautions to assure timely delivery.
Management	The only option would be to approach the customer and ask for a deadline extension.
Status	My project was finished on schedule.

Chapter: 06

Analysis Modeling

In order to provide data, performance criteria, and behavior that are simple to grasp and, more critically, simple to test for accuracy, completeness, and consistency, analytical modeling is using forms and diagrams. Links to conventional process resources, objectives-oriented analysis (OOA), and UML are provided in this section.

6.1 Analysis Modeling

Model analysis objectives

- Domain Analysis
- Describe the client's need
- Create a foundation for developing a software design
- Define a set of criteria that can be confirmed once the product is constructed

6.2 Activity Diagram

Activity diagrams are a graphic representation of processes that support selection, repetition, and consistency in tasks and actions that take action. In Integrated Model Language, both the calculation and editing operations are represented by activity diagrams.

6.1.1 Activity Diagram (Admin)

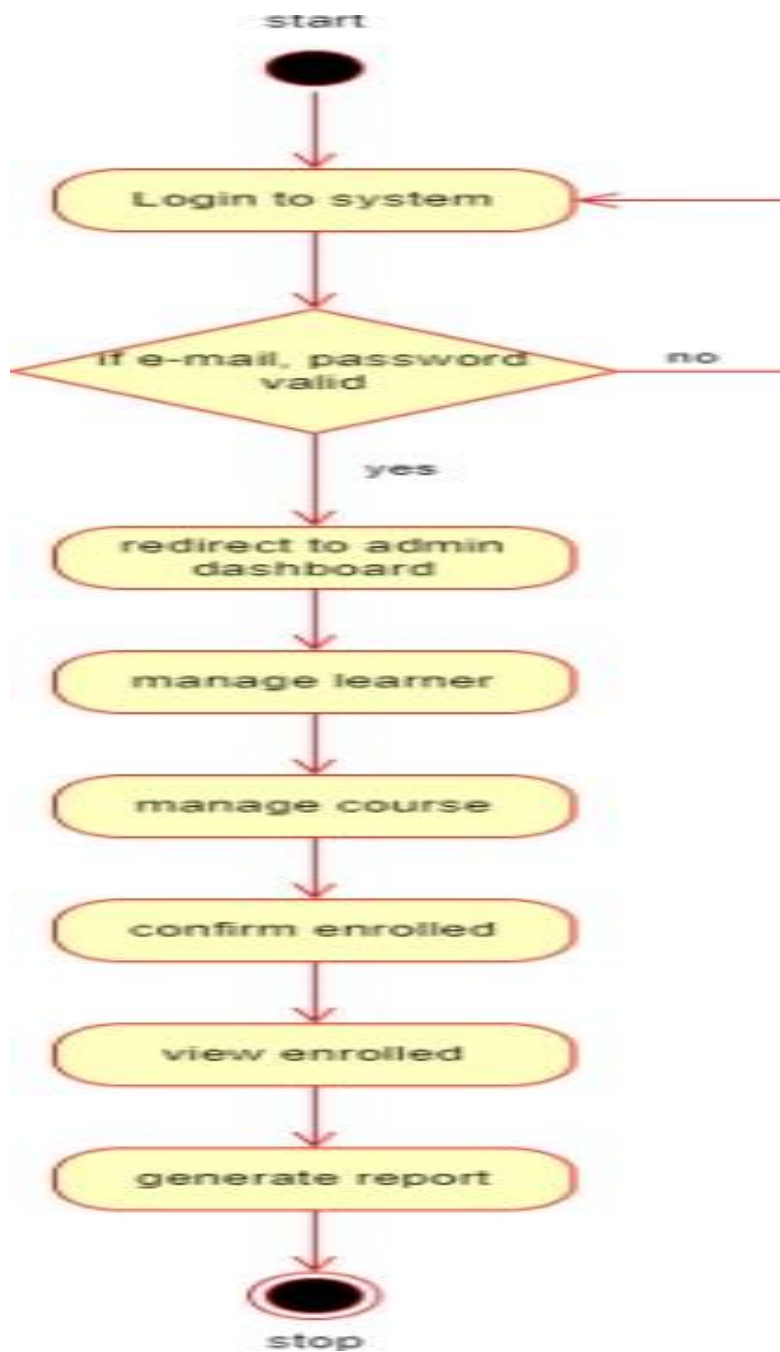


Figure 6.1: Activity Diagram for Admin

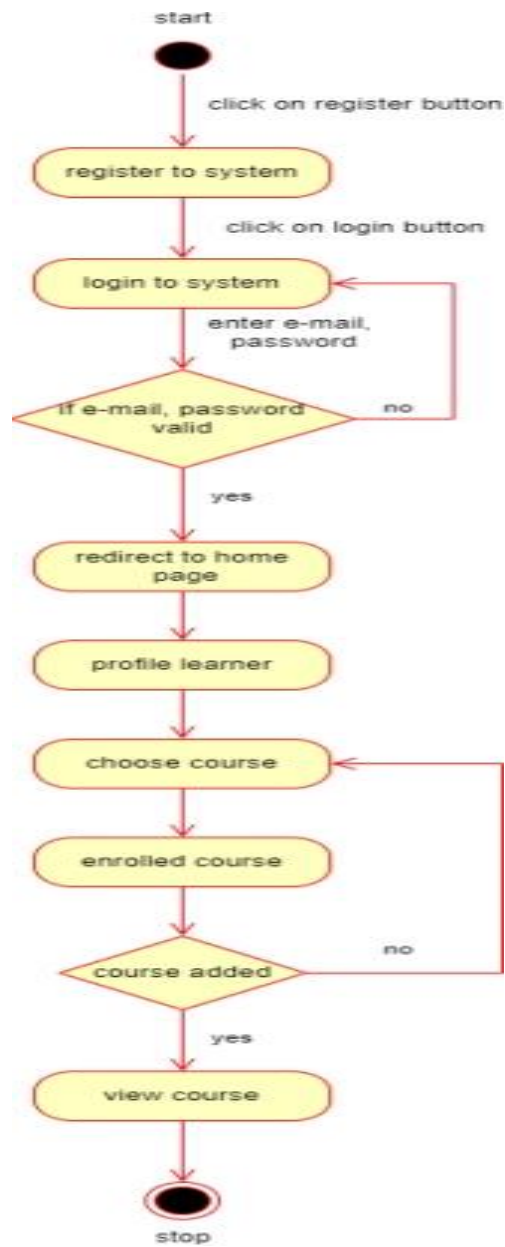


Figure 6.2: Activity Diagram for Student

6.1.3 Activity Diagram (Teacher)

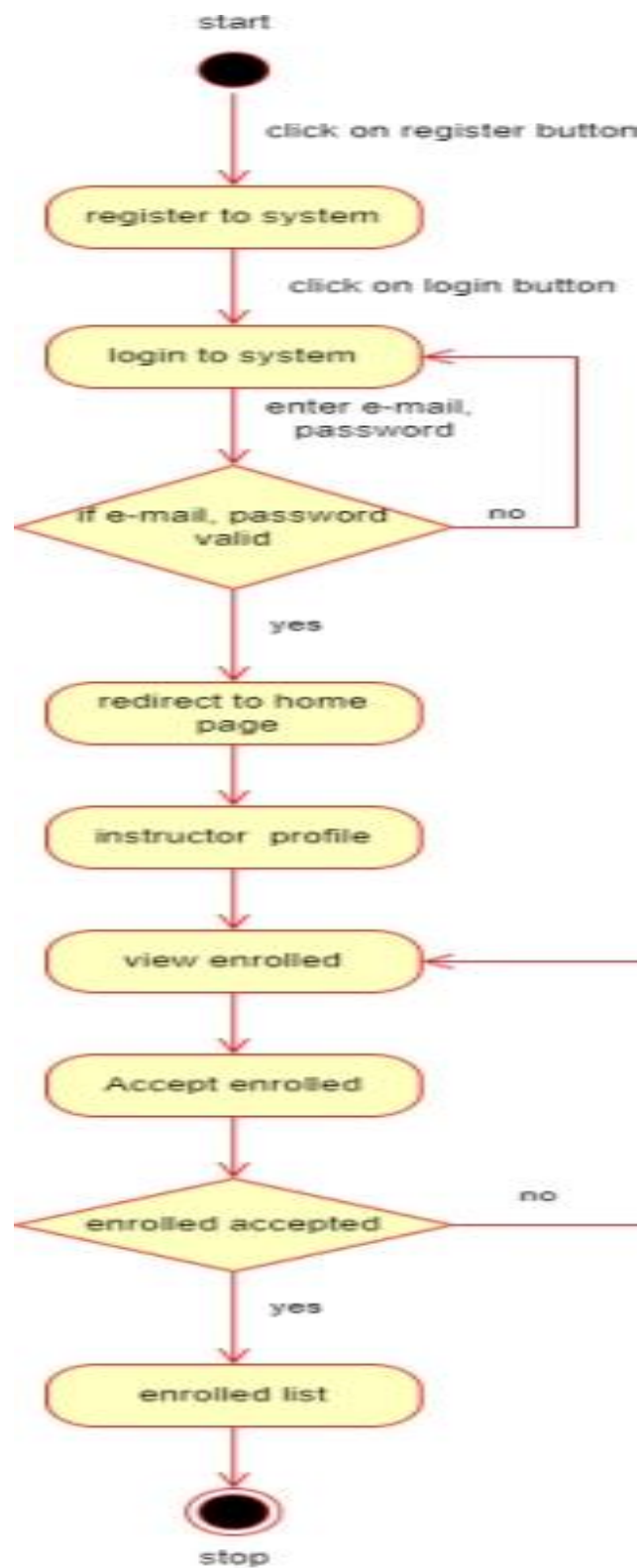


Figure 6.2: Activity Diagram for Teacher

6.2 ER Diagram

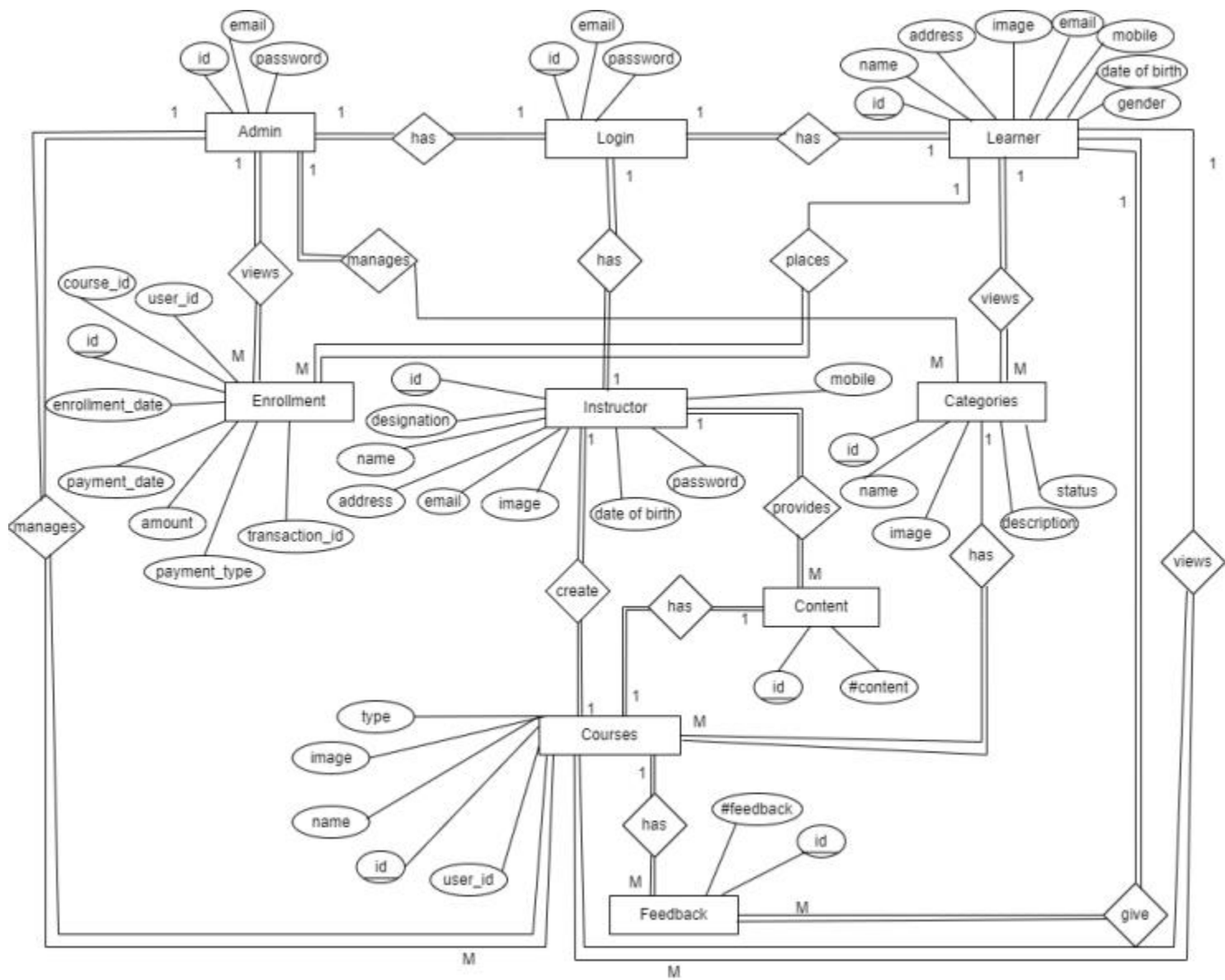
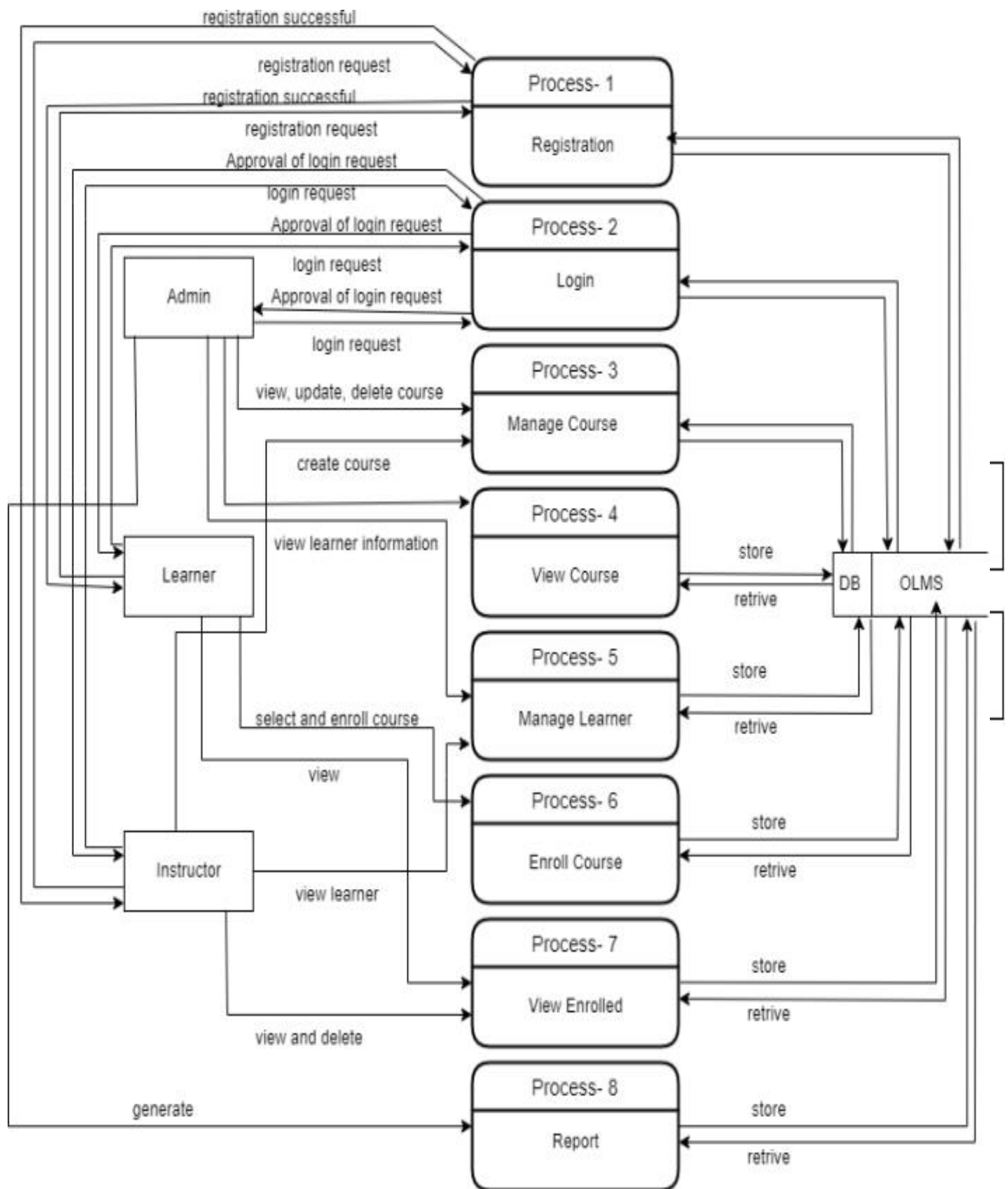


Figure 6.4: ER Diagram

6.3 Data Flow Diagram (DFD)



6.3.5 Level 2- Process 3 DFD (Manage Course)

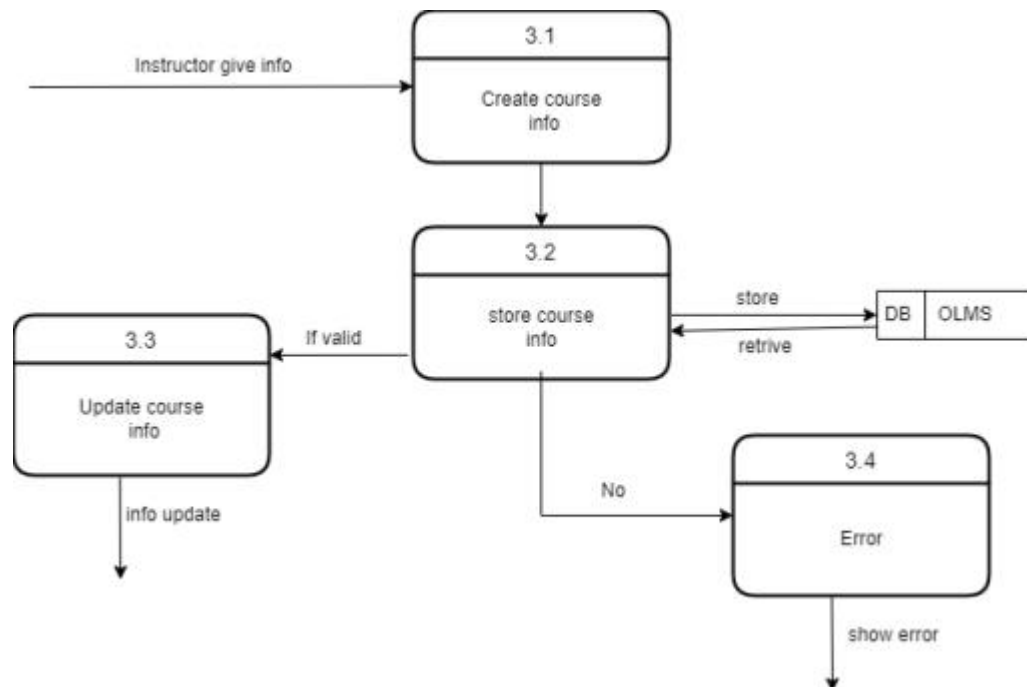
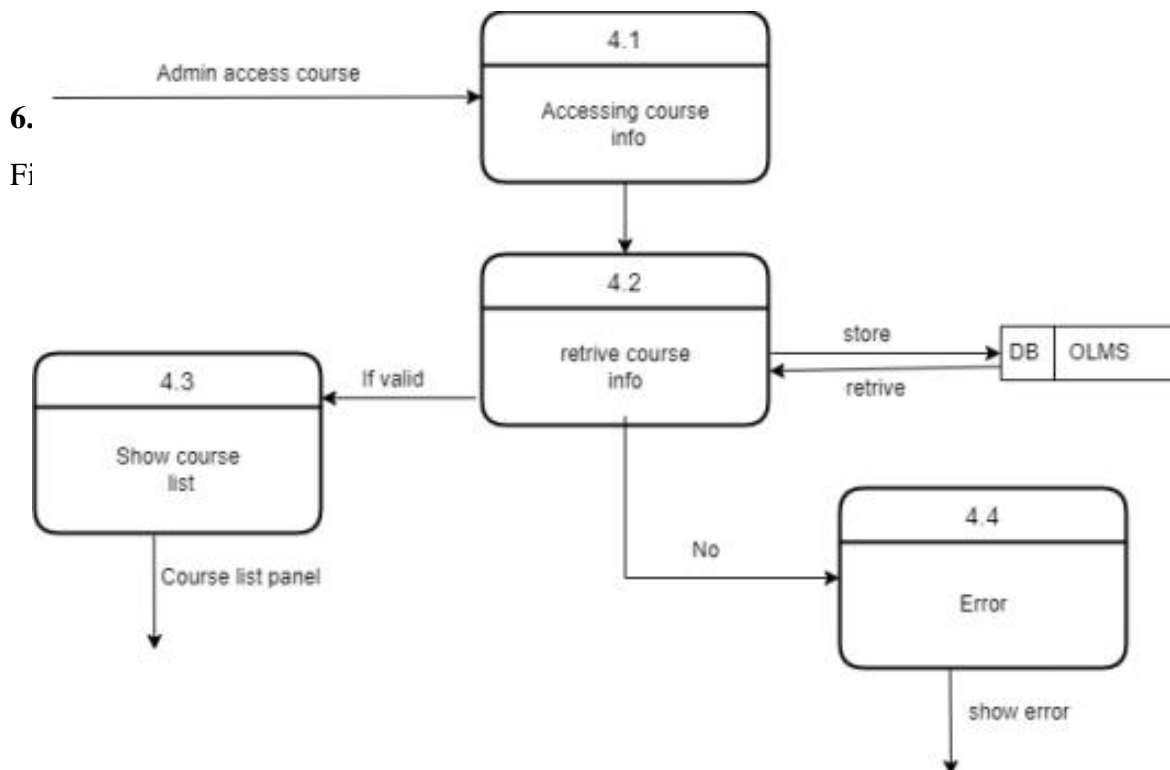


Figure 6.9: Level 2- Process 3 DFD



6.3.7 Level 2- Process 5 DFD (Manage Student)

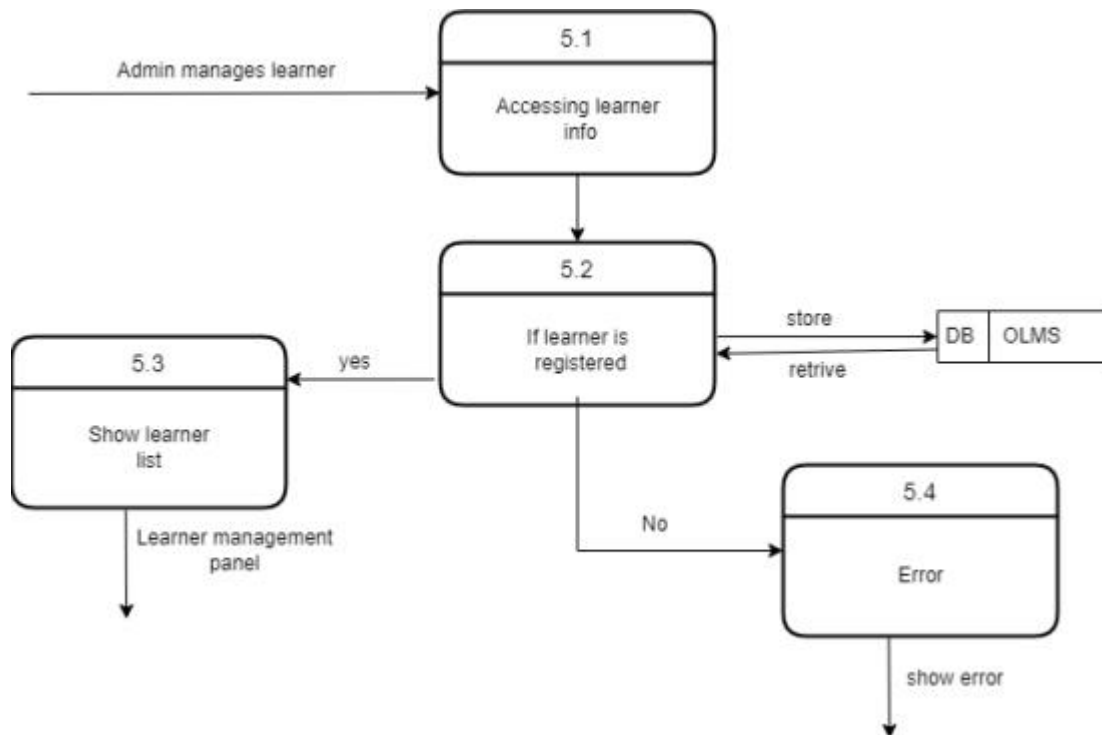
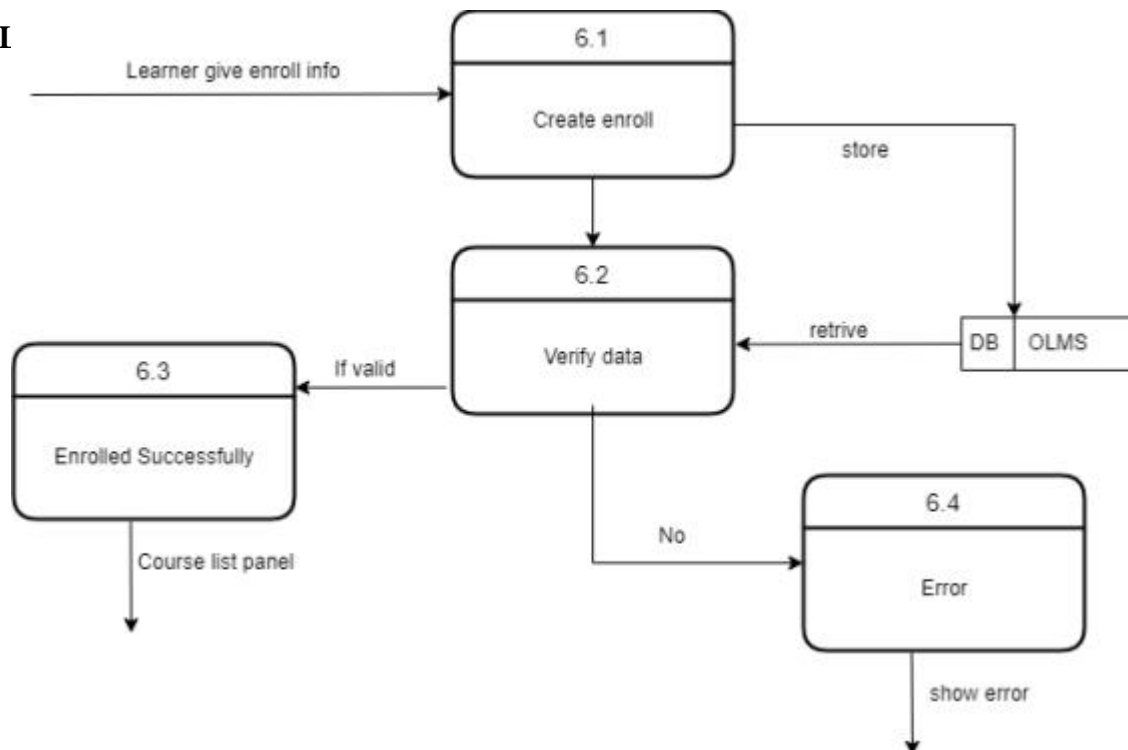


Figure 6.11: Level 2- Process 5 DFD

6.3.8 I



6.3.9 Level 2- Process 7 DFD (View Enrolled)

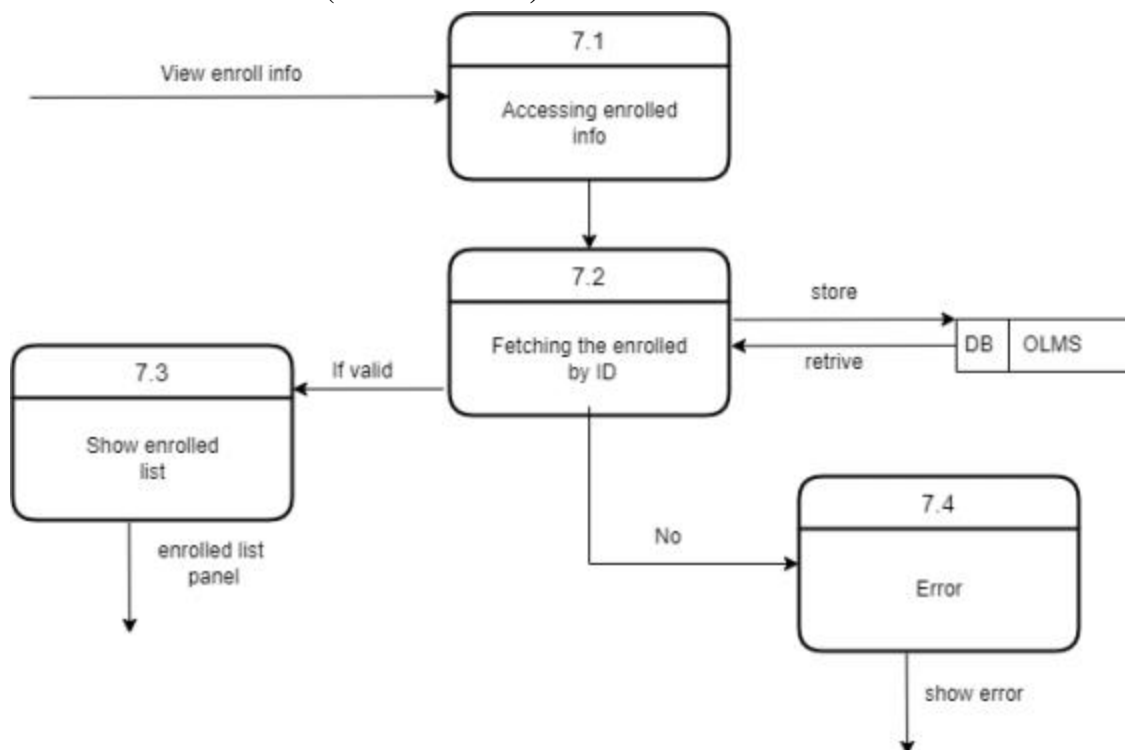
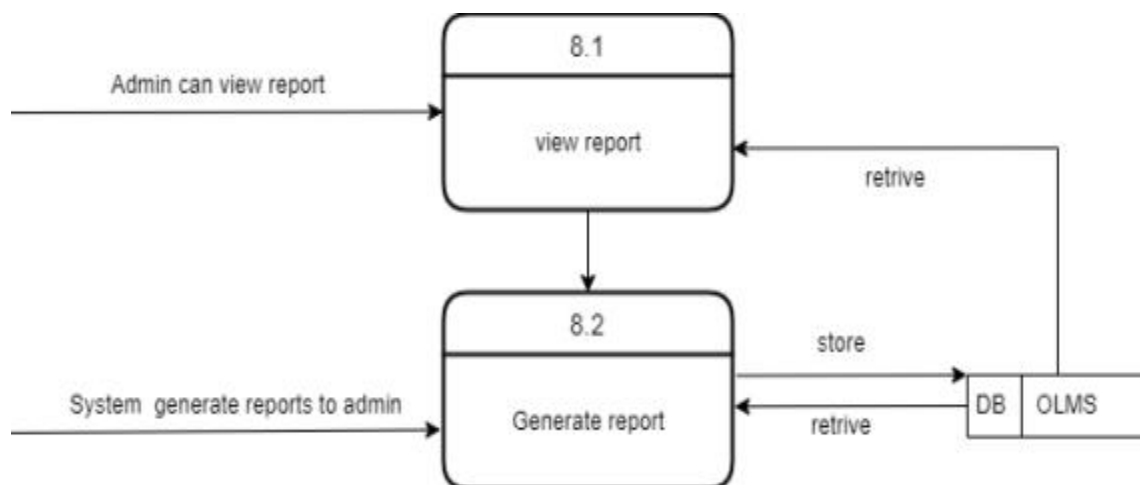


Figure 6.13: Level 2- Process 7 DFD

6.3.10 Level 2- Process 8 DFD (Report)



Chapter: 07

Design

localhost / 127.0.0.1 / learning / x +

localhost/phpmyadmin/index.php?route=/sql&db=learning&table=categories&pos=0

phpMyAdmin

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Server: 127.0.0.1 » Database: learning » Table: categories

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 1 (2 total, Query took 0.0007 seconds)

SELECT * FROM `categories`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options

		id	category_name	category_description	created_at	updated_at
<input type="checkbox"/>	Edit	<input type="checkbox"/>	1	Compiler	wigfsjd	2023-04-15 08:56:58
<input type="checkbox"/>	Edit	<input type="checkbox"/>	2	Fundamental	ewig	2023-04-15 08:57:08

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

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Label: ☐ Let every user access this bookmark

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Server: 127.0.0.1 » Database: learning » Table: courselists

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 0 (1 total, Query took 0.0018 seconds) [course_Name ENGLISH... - ENGLISH...]

SELECT * FROM `courselists` ORDER BY `course_Name` DESC

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Options

		id	course_Name	category_id	course_price	course_duration	created_at	updated_at
<input type="checkbox"/>	Edit	<input type="checkbox"/>	1	English	2	2348	32784	2023-04-15 08:57:40

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

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Bookmark this SQL query

Label: ☐ Let every user access this bookmark

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localhost/phpmyadmin/index.php?route=/sql&server=1&db=learning&table=courselists&pos=0

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- mysql
- performance_schema
- phpmyadmin
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Server: 127.0.0.1 » Database: learning » Table: courselists

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 0 (1 total, Query took 0.0018 seconds) [course_Name ENGLISH... - ENGLISH...]

SELECT * FROM `courselists` ORDER BY `course_Name` DESC

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Options

	id	course_Name	category_id	course_price	course_duration	created_at	updated_at
<input type="checkbox"/>	1	English	2	2348	32784	2023-04-15 08:57:40	2023-04-15 08:57:40

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

Console

Type here to search

localhost / 127.0.0.1 / learning / x +

localhost/phpmyadmin/index.php?route=/sql&server=1&db=learning&table=migrations&pos=0

phpMyAdmin

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Server: 127.0.0.1 » Database: learning » Table: migrations

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 9 (10 total, Query took 0.0006 seconds)

SELECT * FROM `migrations`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options

	id	migration	batch
<input type="checkbox"/>	1	2014_10_12_000000_create_users_table	1
<input type="checkbox"/>	2	2014_10_12_100000_create_password_reset_tokens_tab...	1
<input type="checkbox"/>	3	2019_08_19_000000_create_failed_jobs_table	1
<input type="checkbox"/>	4	2019_12_14_000001_create_personal_access_tokens_ta...	1
<input type="checkbox"/>	5	2023_03_21_071257_create_admins_table	1
<input type="checkbox"/>	6	2023_03_27_054256_create_courselists_table	1
<input type="checkbox"/>	7	2023_03_28_053949_create_categories_table	1
<input type="checkbox"/>	8	2023_03_28_071223_create_students_table	1
<input type="checkbox"/>	9	2023_04_13_054400_create_orders_table	1
<input type="checkbox"/>	10	2023_04_14_053040_create_teachers_table	1

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Console

Type here to search

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localhost / 127.0.0.1 / learning / x +

localhost/phpmyadmin/index.php?route=/sql&server=1&db=learning&table=students&pos=0

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- test

Server: 127.0.0.1 » Database: learning » Table: students

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 2 (3 total, Query took 0.0011 seconds)

SELECT * FROM `students`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options

	id	student_name	counselists_id	teacher_id	student_image	student_email	student_mobile	student_gender	created_at	updated_at
<input type="checkbox"/>	9	njugui@mailinator.com	1	2	20230415052352.jpg	kaku@mailinator.com	+1 (866) 516-1553	female	2023-04-15 17:23:52	2023-04-15 17:23:52
<input type="checkbox"/>	10	waluxe@mailinator.com	1	1	20230415052633.png	qisojobog@mailinator.com	+1 (334) 323-5652	female	2023-04-15 17:26:33	2023-04-15 17:26:33
<input type="checkbox"/>	11	tifa@mailinator.com	1	1	20230415052956.jpg	zirimekuf@mailinator.com	+1 (478) 166-4038	female	2023-04-15 17:29:56	2023-04-15 17:29:56

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Let every user access this bookmark

Console

Type here to search

localhost / 127.0.0.1 / learning / x +

localhost/phpmyadmin/index.php?route=/sql&server=1&db=learning&table=students&pos=0

phpMyAdmin

Recent Favorites

- New
- cat 1
- information_schema
- learning
 - New
 - admins
 - categories
 - counselists
 - failed_jobs
 - migrations
 - orders
 - password_reset_tokens
 - personal_access_tokens
 - students
 - teachers
 - users
- mysql
- performance_schema
- phpmyadmin
- test

Server: 127.0.0.1 » Database: learning » Table: students

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 2 (3 total, Query took 0.0011 seconds)

SELECT * FROM `students`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options

	id	student_name	counselists_id	teacher_id	student_image	student_email	student_mobile	student_gender	created_at	updated_at
<input type="checkbox"/>	9	njugui@mailinator.com	1	2	20230415052352.jpg	kaku@mailinator.com	+1 (866) 516-1553	female	2023-04-15 17:23:52	2023-04-15 17:23:52
<input type="checkbox"/>	10	waluxe@mailinator.com	1	1	20230415052633.png	qisojobog@mailinator.com	+1 (334) 323-5652	female	2023-04-15 17:26:33	2023-04-15 17:26:33
<input type="checkbox"/>	11	tifa@mailinator.com	1	1	20230415052956.jpg	zirimekuf@mailinator.com	+1 (478) 166-4038	female	2023-04-15 17:29:56	2023-04-15 17:29:56

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Let every user access this bookmark

Console

Type here to search

84°F Mostly sunny 9:07 AM 4/16/2023

Chapter: 08

System Testing

System testing

Software testing is the process of analyzing a software product to determine if there are any differences between the input that has been given and the desired output, as well as to evaluate its features. The results of testing determine the caliber of a product. Software testing is a crucial step in the development process. In other terms, the testing process is a process of validation and verification.

- **Verification:** Verification is the procedure used to make sure a product conforms with the specifications set forth at the beginning of the development phase. Or to put it another way, we want to make that the product works as intended.
- **Validation:** Validation is the process of ensuring that the product satisfies the predetermined requirements at the conclusion of the development phase. Make sure the product is made according to the client's specifications, to put it another way.

The objectives of software testing are as follows:

Running a program with the intention of finding errors is known as testing. A test case that has a good possibility of spotting an error that hasn't been found is desirable. A test that finds an issue that hasn't been discovered is successful. As challenging as the initial design of the product might be, so can the design of software testing. Software testing can be done in two ways:

By being aware of the precise task, the system is to carry out, an assessment that fully reflects each task and analyzes the problems in each task can be made. The term of this technique is checking the black box.

- Knowing how the software operates internally allows you to carry out tests to make sure that it performs internal functions in accordance with specifications and that all internal components are used to their fullest extent. Checking the white box is the name of this method.

8.2.1 Software Testing strategy

A well-planned series of procedures that lead to the effective building of a software are integrated into a strategy for software testing. The plan offers a step-by-step guide that outlines the procedures to be followed throughout testing.

This software project will use the following testing strategy:

- Unit testing
- Integration testing
- Validation testing

8.3 System Testing Methodology:

Black-box Testing

The functional requirements of the software are the main emphasis of black-box testing, commonly referred to as behavioral testing. It enables a software engineer to construct sets of input conditions that will fully test every functional requirement of a program.

The black-box testing methodology will be used to test the LMS modules.

Figure 8.1: Black box testing

Testing

Table 8.1: System Testing Scenario 1

Testing scenario No: 1	
Scenario	Teacher & Student Registration
Inputs	Name, email, image, designation, mobile, password role, date of birth, address
Desired outputs	When enter all basic info correctly, new Student and Teacher will be registered in the system.
Actual outputs	For new Student & Teacher registration my system works correctly
Verdict	Getting result from Desired outputs and Actual outputs decided this system is successful for new Student and Teacher registration.

Table 8.1: System Testing Scenario 2

Testing scenario No: 2	
Scenario	Student & Teacher Login testing scenario of my system
Input	E-mail, password of Student & Teacher for Login
Desired output	When enter E-mail, password then get access level define.
Actual output	For login my system works correctly
Verdict	Getting result from Desired output and Actual outputs decided this system is successful for login.

Chapter: 09

Conclusion

9.1 Practicum and Its Value Conclusion:

As in other areas of life, there is an obvious connection between effort and reward in the development of our professions. Practicum, in my opinion, could act as a link between college engineering studies and real work by delivering practical knowledge of engineering techniques.

Student knowledge of theoretical and practical knowledge is acquired during the four years of undergraduate engineering studies. The practicum program clarifies those lessons that are “essential to another gifted real work ethic By utilizing such information and observing systems for live performances. It gives us great pleasure to say that my work went without a problem in view of this.

Active work experience has no alternative. Before beginning work, students should be familiar with real-world applications of their primary study area. Now the employer of the day no longer thinks of just high marks, good communication skills, knowledge of part-time work. They are very considerate of the applicant’s work experience. Students with better job experience get better job opportunities.

I am grateful to Aurora IT-21 Limited for giving me the chance to work in a workplace that is professional. During my training, I made use of all the knowledge I gained at university to be able to make my program work as efficiently as possible. While at IUBAT, I applied the teachings, methods, tools and techniques I had learned from my great mentors. General progress processes, Software development success requires both sufficient engineering expertise as well as a solid proposed framework.

This practicum program, which carries a 6credit hour weight and is offered to students in the College of Engineering and Technology (CEAT) at IUBAT, lasts for one semester and is typically taken after the completion of the course work.

9.2 Conclusion:

The biggest experience working at Kodeeo Limited. Is indeed being a part of designing and implementing software. I have learned a lot of new things which was so much unknown to me. I have also learned some technical issues which help to do better in future life. The following indicator will indicate some of my technical issue which I have learnt and implemented from this project. I have learned the designing strategy of a web-based project. I have analyzed strategy of a web based project. While developing and documenting of my project I have learnt a lot about software development as well how the report is to be done. I used PHP framework Laravel as the back-end language to develop the system. I used HTML 5, CSS 3, bootstrap 5, laravel framework, JavaScript, as the front- end language to design the interface. For database and software interaction, I have used xampp I tried my best level to implement a user- friendly interface so that it can be used without putting much effort. I have gone through quite a lot of analysis before starting to develop the project. It helped me to get a better view of the scenario. It can be developed in different ways with other features as well. It could make the system more efficient. I have further plan to develop those features in near future

Limitations

- There is no payment gateway in our system
- There is no option to sign up with Facebook or twitter.
- No scope select address for specific area with google map
- Admin cannot accept or delete the contact message.

9.2.1 Future work

- Implement internet banking and credit card system.

- User real time notification.
- Real time messaging system.

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