E-LEARNING PORTAL

A PROJECT REPORT

Submitted in Partial Fulfilment of the Requirements for the Degree of

MASTER OF COMPUTER APPLICATION

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ABSTRACT

The aim of this project is to provide an online learning system with a smooth and well- organized Graphical User Interface easy to understand for the user form first glance.The project has been planned to be having the view of distributed architecture, with centralized storage of the database.

This portal will enhance the quality of learning. Improve user accessibility and time flexibility to engage learners in the learning process. It offers online content that can be delivered for the learner at anywhere, anytime through a wide range of e-learning solution.

Keywords: Improve user accessibility, learning process, well- organized GUI.

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CHAPTER 1

INTRODUCTION

In today's fast-paced digital era, traditional methods of education are rapidly evolving to meet the demands of a globalized and technology-driven society. ELearning, or electronic learning, has emerged as a powerful and innovative approach to education, offering flexible and accessible learning experiences to individuals of all ages and backgrounds. This introduction aims to provide an overview of an eLearning portal project, highlighting its significance, objectives, and potential benefits

The advent of the internet and digital technologies has revolutionized the way we learn and acquire knowledge. eLearning leverages these technological advancements to create an interactive and immersive learning environment that transcends traditional classroom boundaries. By harnessing the power of online platforms, eLearning enables learners to access educational resources, courses, and materials from anywhere in the world, at any time, using various devices. This convenience and flexibility have made eLearning a popular choice for students, professionals, and lifelong learners seeking to enhance their skills and knowledge.

The primary objective of the eLearning portal project is to develop a comprehensive online platform that facilitates effective and engaging learning experiences. The project aims to bring together learners, educators, and subject matter experts in a collaborative digital space. The key objectives of the project include.

As of Indian market, there is ample opportunities for the E Learning portal sites, as more and more number of educated and skilled young people are coming out each and every year. Also, as the growth rate of India is zooming to be at a healthy rate over 7%, so it is boom time for corporate also. So, more and more number of lucrative careers will be available for the E Learning seekers. So, it is now the right period for the E Learning portal sites to think out of the box, and to make most of the opportunities available.

. To make things handy, the user functionalities are developed as an Android application. Employer can register with the application and posts their current openings. They can view the E Learning applicants and can screen them according to the best fit. Users can provide a review about an organization and share their interview experience, which can be viewed by theEmployers.

1.1 PROJECT DESCRIPTION

1.1.1 Learner Module

- In learner module the user will be able to create his account on the portal.
- User will be able to enter his details and he/she can also manage the profile in future.
- After successfully creating the account user will be able to view and enroll for various courses and also apply for the same.
- User can also fill a feedback form if, he/she having problem while accessing the course.
- User can also ask question to expert, if he/she having query in the topic.

1.1.2 Expert Module

- In expert module the registration of expert is done by the administration.
- After successful registration the admin will provide the login details to the expert respectively.
- In Expert dashboard there will be three option-
  a) Answer to doubts
  b) Suggestion to Administration
  c) Manage Profile
- Expert can only view the question, and answer them, they will not be able to see the details of Learner.
- If expert want any changes or any suggestion in the module then he/she can fill the suggestion form.
- And , expert can also be able to manage the profile in future.

1.1.3 Admin Module

- Entire course content is managed by the admin module.
- Admin module will be able to manage the expert details ,these experts are hired and registered by admin.
- Admin will be able to see the list of learners who have registered on the portal, admin can edit and delete the Learner details.Suggestions from the expert and feed back from the learners can be viewed by admin.

1.2 PROJECT SCOPE

The scope of the eLearning portal project encompasses the boundaries and deliverables that define its objectives and functionalities. This paragraph will provide an overview of the project scope, outlining the key elements that will be included in the development and implementation of the eLearning portal.

As of Indian market, there is ample opportunities for the E Learning portal sites, as more and more number of educated and skilled young people are coming out each and every year. Also, as the growth rate of India is zooming to be at a healthy rate over 7%, so it is boom time for corporate also. So, more and more number of lucrative careers will be available for the E Learning seekers. So, it is now the right period for the E Learning portal sites to think out of the box, and to make most of the opportunities available

The eLearning portal will cater to a diverse audience, including learners of different ages, educational backgrounds, and professional experiences. It will offer a wide range of courses spanning various subjects and disciplines. These courses will be carefully curated and designed to meet the needs and interests of the learners, ensuring their relevance and effectiveness.

The portal will provide an intuitive and user-friendly interface, allowing learners to navigate through the platform with ease. The design and layout of the portal will be optimized for usability, ensuring a seamless learning experience for users. It will be responsive and compatible with different devices, including desktop computers, laptops, tablets, and smartphones.

Assessment and progress tracking mechanisms will be integrated into the eLearning portal. Learners will have access to quizzes, assignments, and exams to evaluate their understanding and progress. These assessments will be designed to provide meaningful feedback to learners and measure their mastery of the course material. The portal will track learners' progress, displaying completion percentages and performance analytics to enable learners and educators to monitor and address learning gaps.

In conclusion, the project scope of the eLearning portal encompasses the development and implementation of a comprehensive platform that offers a wide range of courses, interactive learning resources, assessment tools, communication and collaboration features, and robust administrative functions. By adhering to the defined scope, the eLearning portal aims to provide an engaging and accessible learning experience for learners while facilitating efficient management and administration for educators and administrators.This project is aimed at developing an online search Portal for thePlacement Details for E Learning seekers. The system is an online application that canbe accessed throughout the organization and outside as well with proper loginprovided. This system can be used as an Online E Learning Portal for E Learning seekers. E LearningSeekers logging should be able to upload their information in the form of application.Visitors/Company representatives logging in may also access/search any information put up by E Learning aspirants

1.3 HARDWARE/SOFTWARE

1.3.1 Hard Requirements

Hardware-	**:** Processor i3 or above
Clock speed-	**:** 3.0 GHz
RAM size-	**:** 4 GB or above
Hard Disk capacity-	**:** 500 GB or above
Peripheral Devices**:**]:	

1.3.2 Software Requirements

Operating System-	**:** Windows 10
Browser-	**:** Google chrome or any other
Application software-	**:** Visual Studio Code
Technology	**:** PHP
Server Required-	**:** Apache
Language Required-	**:** Html, Css,Php

CHAPTER 2

LITERATURE SURVEY

Literature Review is a very important step in the software development process. Before building any new tool, we need to check the time factor, economy and company strength. When these things are fulfilled, at that point following stages is to figure out which working framework and language can be utilized for building up the device. A lot of help is required for building the tool, internal as well as external. Senior programmers can help and provide this support to the developers from various sources like research papers, books or online websites. Before building the framework the above thought are considered for building up the proposed framework.Computer plays an important role in our daily life. Anything we want we can get only In one mouse click. Speed, reliability and accuracy of the computer make it a powerful tool for different purposes. A very important and basic need of today's modern businessworld is the quick availability and processing of information using computer.One can easily get the type of required information within a fraction of a second. The project thatwe have taken is also in this category which is used in our daily life whenever we want to purchase some items, we can easily get them at our home.

2.1 ABSTRACT

An Online E Learning Portal Web application is proposed here which simplifies the processof finding E Learning.E Learning portal service was developed for creating an interactive E Learning vacancy form for candidates. This web application manage updates both from the E Learning students as well as the companies. It's unique development methodology helps in acquiring the client and candidate information and separating them according to the E Learning requirements and vacancies.

The online access to it provides details of the E Learning. An employer being registered in the web site has the facility to use the services. Being anauthorized user he can publish vacancy details and can search no of Employees on portal and also he can search candidates on basis of the key skill which employee provides on registration.

2.2 LITERATURE REVIEW

The literature available on e-learning hasbeen reviewed under the classification ofE-learningresearch and applications. The articles are reviewed for theircontribution and their critical issues.The review focuses on examining the key themes, methodologies, and findings presented in the literature. By analyzing a wide range of sources, this review aims to identify the current state of e-learning projects.The purpose of the literature review is to gain a comprehensive understanding of the current state of knowledge in the field, identify gaps or areas for further investigation, and inform the development of the e-learning project. The old, traditional methods for learning are :

- Textbook-based learning
- Pen-and-paper activities
- Classroom-based learning
- Memorization
- Rote learning
- Assessment through tests and exams in offline mode
- Face-face interaction

It is important to note that while traditional methods have been widely used, educational practices have evolved to incorporate more student-centered and interactive approaches that promote critical thinking, problem-solving, and active engagement. But E-learning offers flexibility in terms of when and where learning takes place. Learners can access the content at their convenience and fit their study schedule around other commitments.It provides access to education for a broader range of individuals. It overcomes geographical barriers by enabling learners to access educational resources from anywhere in the world, as long as they have an internet connection.

E-learning often proves to be more cost-effective than traditional forms of education. It eliminates expenses associated with commuting, accommodation, and physical learning materials. Organizations can also save on training costs by utilizing e-learning platforms for employee development. Adaptive e-learning systems can also adjust the content and difficulty level based on individual learner performance, providing a tailored learning experience.

This E-learning platforms often incorporate multimedia elements such as videos, animations, quizzes, and interactive exercises. These features enhance learner engagement and retention. Additionally, online discussion forums and collaborative tools facilitate interaction and knowledge sharing among learners, creating a sense of community.E-learning offers scalability, making it suitable for both individual learners and large groups. It allows educational institutions

and organizations to reach a vast number of learners simultaneously, without the limitations of physical classroom capacities. This scalability makes e-learning an efficient and cost-effective option for delivering education and training at scale, it is a common place between students and teacher experts.

2.3 MODULES OF THE APPLICATION

- **User Registration**
  It is use for adding the new users that are using or logging in to the application for the firsttime. It asks for the username password mobile no email by which the user can login againwhenever he/she wants to use the app by using the signing credentials they have put at thetime of registration.

- **Login**
  After registering the user has to login with the credentials to verify themselves.

- **Quiz module**
  In this module,the quiz structure could be multiple choice questions, true/false, fill in the blanks, or a combination of different question types.

- **Forgot password**
  This allows users who have forgotten their password to regain access to their accounts.When a user clicks on the "Forgot Password" link or button, they are usually redirected to a password recovery page or prompted to enter their email address or username.The system then verifies the provided information against the user database.

2.4 SERVICE TO THE LEARNER

- **Manage Profile**
  First user will be able to enter his details and then he/she can also manage the profile in future to perform any updation, alteration in the details that was submitted by him earlier.

- **Course Enrollment**
  Users can enroll in the courses they have selected from the catalog. These courses are the free and open forregistering.

- **Ask Expert**
  User can also ask question to expert, if he/she having query in the topic, user can just submit the question on the available section in the portal.

- **Feedback Form**
  The User can also fill a feedback form if, he/she having problem while accessing the course. If facing any issue related the interface, connections and wanted to add some specific feature in this portal.

- **Course Catalog**
  The course catalog module provides an overview of all available courses, including their descriptions, objectives, and prerequisites. Users can browse through the catalog and select the courses they are interested in.

- **Assessments and Quizzes**
  It allows users to take quizzes or assessments to evaluate their understanding of the course material. It may include multiple-choice questions, fill-in-the-blanks, or even interactive simulations and case studies.

2.5 SERVICE TO THE EXPERT

- **Manage Profile**
  Expert will be able to enter his details and then he/she can also manage the profile in future to perform any updation, alteration in the details that was submitted by him earlier.

- **Suggestion for Admin**
  If expert want any changes or any suggestion in the module then he/she can fill the suggestion form for admin.

- **View Questions of Users**
  There is an option available on the portal to see the questions which was asked by learners it may be theoretical, logical question.

- **Answer Doubts**
  The expert teachers answer the doubts in this section so that doubts are clear, and the question is automatically removed from the section when expert answered it.

- **Activate/Deactivate account**
  The account can be deactivated of the expert only by the admin as it was also registered by the admin initially ,it is occurred just to check and provide more tranined.

2.6 CONCLUSION

In conclusion, the e-learning project has proven to be a valuable and effective tool for enhancing education and learning experiences. This is an innovative and transformative approach to education. It has enhanced accessibility, personalized learning, engagement, cost and time efficiency, continuous learning, data-driven insights, collaborative learning, and global networking. As technology continues to advance, e-learning will likely play an increasingly vital role in shaping the future of education, empowering individuals to acquire knowledge and skills in a dynamic and interconnected world.It allows individuals to update their skills and knowledge conveniently, keeping pace with evolving industries and technological advancements. E-learning platforms often offer a wide range of courses and resources that cater to diverse interests and professional development needs.

2.7 REFERENCES

[1] J. Dorn and T. Naz, "Integration of E Learning portals by Meta-search," in Proc. 3rd International Conf. on Interoperability for Enterprise Software and Applications, Funchal, Portugal, 2007, pp. 401-412.

[2] S. Bsiri, M. Geierhos, and C. Ringlstetter, "Structuring E Learning search via local grammars," Advances in Natural Language Processing an Applications, pp. 201, 2008.

[3] M. Mansourvar and N. Y. Mohd, "E learning portal as a knowledge management system in the universities," World Academy of Science Engineering and Technology, vol. 70, pp. 968-974, 2010.

[4] M. Gangle, "The only way is up? Employment protection and E Learning mobility among recent entrants to European labour markets," European Sociological Review, vol. 19, pp. 429, 2007.

[5] E. Galanki, "The decision to recruit online: a descriptive study," Career Development International, vol. 7, pp. 243-251, 2002

CHAPTER 3

FEASIBILITY STUDY

A feasibility study **analyzes the viability of a project to determine whether the project or venture is likely to succeed**. The study is also designed to identify potential issues and problems that could arise while pursuing the project.

A feasibility study evaluates a project's or system's practicality. As part of a feasibility study, the objective and rational analysis of a potential business or venture is conducted to determine its strengths and weaknesses, potential opportunities and threats, resources required to carry out, and ultimate success prospects. Two criteria should be considered when judging feasibility: the required cost and expected value.A feasibility study is a comprehensive evaluation of a proposed project that evaluates all factors critical to its success in order to assess its likelihood of success. Business success can be defined primarily in terms of ROI, which is the amount of profits that will be generated by the project.

3.1 TECHNICAL FEASIBILITY

Technical feasibility study is concerned with specifying equipment and software that will successfully satisfy the user requirement; the technical needs of the system may vary considerably. The facility to produce outputs in a given time. Our project is a web based application which is based on client-server based application. In this application every page as output is render from server to client so it is necessary that the page should be rendered in time. For this I have avoided more and more code in the page- load event.A technical feasibility study reviews the technical resources available for your project. This study determines if you have the right equipment, enough equipment, and the right technical knowledge to complete your project objectives. For example, if your project plan proposes creating 50,000 products per month, but you can only produce 30,000 products per month in your factories, this project isn’t technically feasible.This assessment focuses on the technical resources available to the organization. It helps organizations determine whether the technical resources meet capacity and whether the technical team is capable of converting the ideas into working systems. Technical feasibility also involves the evaluation of the hardware, software, and other technical requirements of the proposed system. As an exaggerated example, an organization wouldn’t want to try to put Star Trek’s transporters in their building—currently, this project is not technically feasible.

3.2 BEHAVIOURAL FEASIBILITY

Behavioural feasibility is the measure to determine the cost and benefit of the proposed system. A project is economical feasible which is under the estimated cost for its development. These benefits and costs may be tangible or intangible. E Learning Portal is the cost-effective project in which there is less possibility of intangible cost so there is no difficulty to determine the cost of the project.An operational feasibility study evaluates whether or not your organization is able to complete this project. This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide.This includes staffing requirements, organizational structure, and any applicable legal requirements. At the end of the operational feasibility study, your team will have a sense of whether or not you have the resources, skills, and competencies to complete this work.

3.3 OPERATIONAL FEASIBILITY

Operation feasibility is used to check whether the project is operationally feasible or not. Our project is mainly different from the other system because of its web-support feature. So the measure for operational feasibility is something different from other system. Generally the operational feasibility is related to organization aspects. The change determination is as such that early product were either a man or group of men or the E Learnings based manual but now a day with the advent of Internet technology.This assessment involves undertaking a study to analyze and determine whether—and how well—the organization’s needs can be met by completing the project. Operational feasibility studies also examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development.This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide.

CHAPTER 4

DATABASE DESIGN

Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm and area of application. Design is the first step in the development phase for any engineered product or system. The designer's goal is to produce a model or representation of an entity that will later be built. Beginning, once system requirement have been specified and analyzed, system design is the first of the three technical activities - design, code and test that is required to build and verify software

The importance can be stated with a single word "Quality". Design is the place where quality is fostered in software development. Design provides us with representations of software that can assess for quality. Design is the only way that we can accurately translate a customer's view into a finished software product or system. Software design serves as a foundation for all the software engineering steps that follow. Without a strong design we risk building an unstable system – one that will be difficult to test, one whose quality cannot be assessed until the last stage.

During design, progressive refinement of data structure, program structure, and procedural details are developed reviewed and documented. System design can be viewed from either technical or project management perspective. From the technical point of view, design is comprised of four activities – architectural design, data structure design, interface design and procedural design.

System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements. System Design for tech interviews is something that can't be ignored! Almost every IT giant whether it be Facebook, Amazon, Google, Apple or any other ask various questions based on System Design concepts such as scalability, load-balancing, caching, etc. in the interview. This specifically designed System Design tutorial will help you to learn and master System Design concepts in the most efficient way from basics to advanced level.

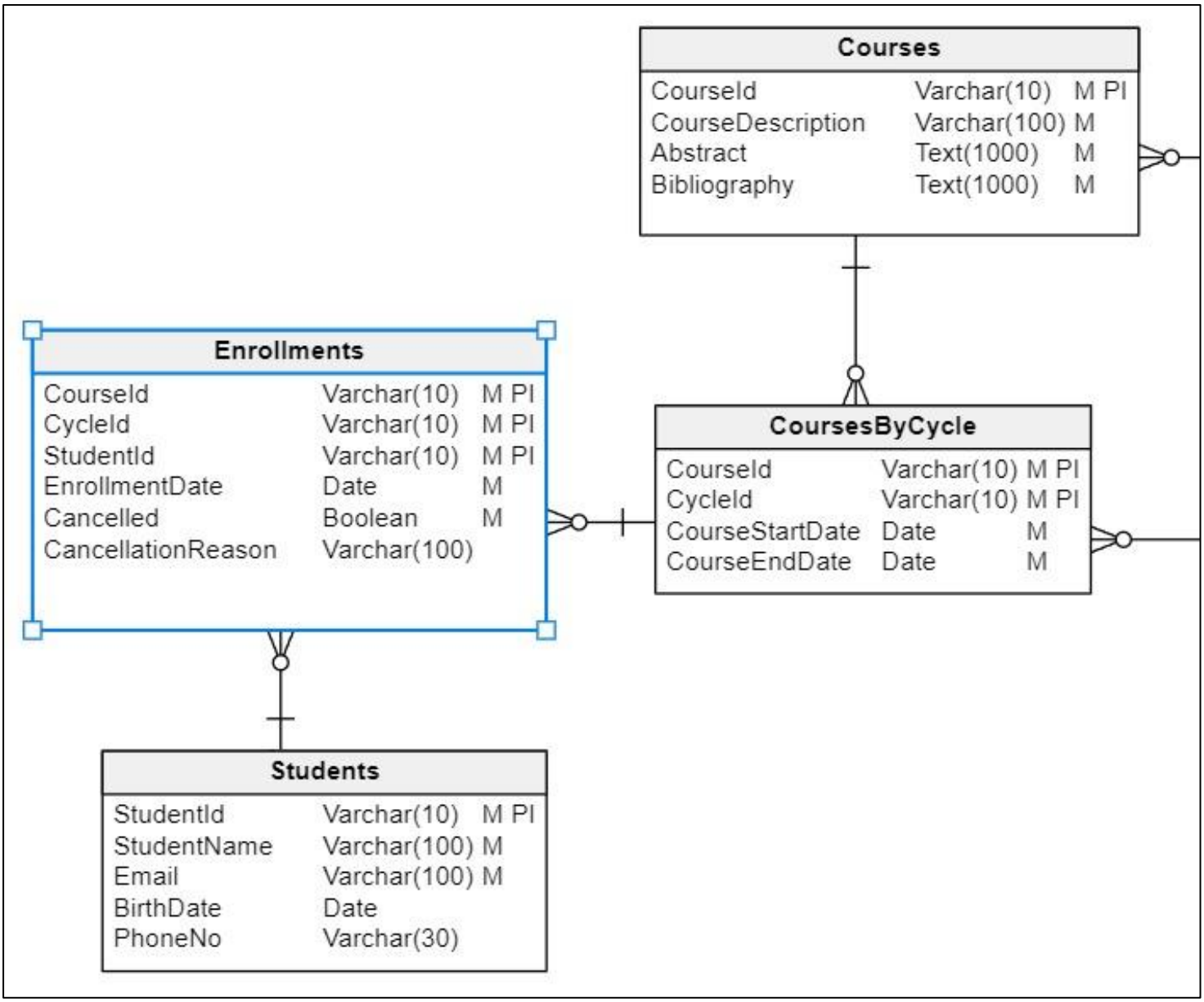


Fig.1 Database Design

4.2DATABASE TABLE

Field	Type
Email	Varchar(255)
Password	Varchar(255)

Table 1 Login Table

Name	Type
user_id	int(12)
first_name	varchar (20)
last_name	varchar (20)
gender	varchar (6)
email_id	varchar (40)
user_name	varchar (10)
password	varchar (40)

Table 2 User Info Table

Name	Type
expert _id	int(12)
first_name	varchar (20)
last_name	varchar (20)
gender	varchar (6)

email _id	varchar (40)
user _name	varchar (10)
password	varchar (40)

Table 3 Expert Info Table

Name	Type
subject_id	int(20)
title	varchar(20)
info	varchar(153)
d_info	varchar(850)

Table 4 Subject Table

Name	Type
subject_id	varchar(10)
chap_Id	int(20)
info	varchar(5000)

Table 5 Chapter Table

Name	Type
ques _id	int(10)
user _id	int(10)
user_name	varchar(40)

description	varchar(5000)

Table 6 Ques Table

Name	Type
expert_id	int(6)
user _id	int(6)
ques _id	int(10)
question	varchar(100)
answer	varchar(300)

Table 7 Answer Table

Name	Type
description	varchar(500)
user_id	varchar(50)

Table 8 Feedback Table

4.1FLOWCHART DIAGRAM

Flowcharts are nothing but the graphical representation of the data or the algorithm for a better understanding of the code visually. It displays step-by-step solutions to a problem, algorithm, or process. It is a pictorial way of representing steps that are preferred by most beginner-level programmers to understand algorithms of computer science, thus it contributes to troubleshooting the issues in the algorithm. A flowchart is a picture of boxes that indicates the process flow in a sequential manner. Since a flowchart is a pictorial representation of a process or algorithm, it's easy to interpret and understand the process. To draw a flowchart, certain rules need to be followed which are followed by all professionals to draw a flowchart and is widely accepted all over the countries.

Process flowchart: This type of flowchart shows all the activities that are involved in making a product. It basically provides a pathway to analyze the product to be built. A process flowchart is most commonly used in process engineering to illustrate the relation between the major as well as minor components present in the product. It is used in business product modeling to help understand employees about the project requirements and gain some insight about the project.

Data flowchart: As the name suggests, the data flowchart is used to analyze the data, specifically it helps in analyzing the structural details related to the project. Using this flowchart, one can easily understand the data inflow and outflow from the system. It is most commonly used to manage data or to analyze information to and fro from the system.

Business Process Modeling Diagram: Using this flowchart or diagram, one can analytically represent the business process and help simplify the concepts needed to understand business activities and the flow of information. This flowchart illustrates the business process and models graphically which paves a way for process improvement.

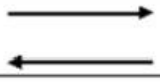
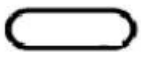
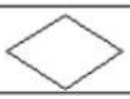
Symbol	Symbol Name	Description
	Flow Lines	Used to connect symbols
	Terminal	Used to start, pause or halt in the program logic
	Input/output	Represents the information entering or leaving the system
	Processing	Represents arithmetic and logical instructions
	Decision	Represents a decision to be made

Table 9 Flowchart Symbol

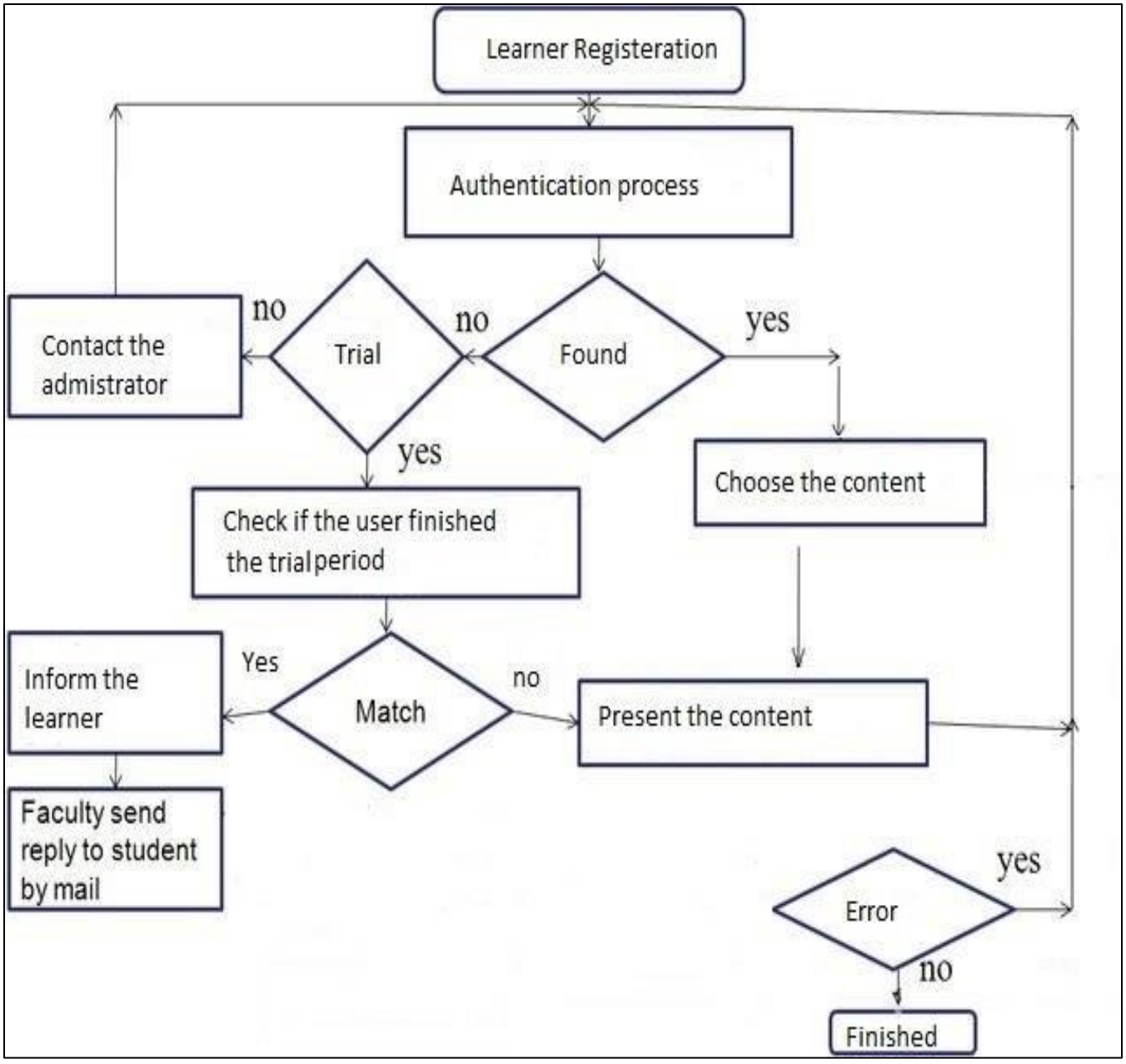


Fig. 2 Flowchart

4.2 USE CASE DIAGRAM

In the Unified Modeling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, you'll use a set of specialized symbols and connectors.A use case diagram doesn't go into a lot of detail—for example, don't expect it to model the order in which steps are performed. Instead, a proper use case diagram depicts a high-level overview of the relationship between use cases, actors, and systems. Experts recommend that use case diagrams be used to supplement a more descriptive textual use case.

UML is the modeling toolkit that you can use to build your diagrams. Use cases are represented with a labeled oval shape. Stick figures represent actors in the process, and the actor's participation in the system is modeled with a line between the actor and use case. To depict the system boundary, draw a box around the use case itself.

These diagrams are used at a very high level of design. This high level design is refined again and again to get a complete and practical picture of the system. A well-structured use case also describes the pre-condition, post condition, and exceptions. These extra elements are used to make test cases when performing the testing.

Although use case is not a good candidate for forward and reverse engineering, still they are used in a slightly different way to make forward and reverse engineering. The same is true for reverse engineering. Use case diagram is used differently to make it suitable for reverse engineering.

Use case diagrams can be used for −

- Requirement analysis and high level design.
- Model the context of a system.
- Reverse engineering.
- Forward engineering.

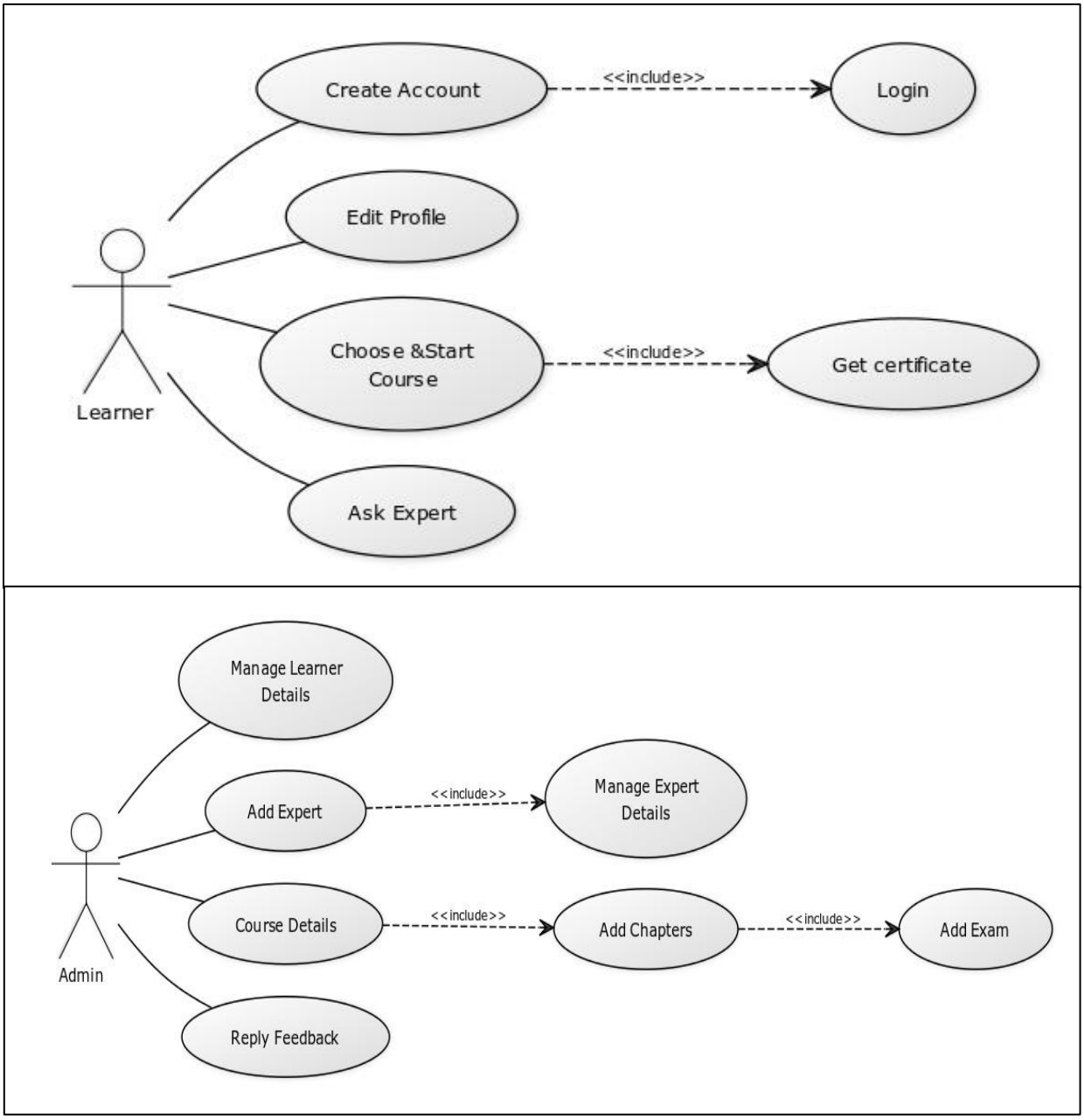


Fig. 3 Use Case Diagram

4.3 SEQUENCE DIAGRAM

The sequence diagram represents the flow of messages in the system and is also termed as an event diagram. It helps in envisioning several dynamic scenarios. It portrays the communication between any two lifelines as a time-ordered sequence of events, such that these lifelines took part at the run time. In UML, the lifeline is represented by a vertical bar, whereas the message flow is represented by a vertical dotted line that extends across the bottom of the page. It incorporates the iterations as well as branching.

A sequence diagram is a type of interaction diagram because it describes how—and in what order—a group of objects works together. These diagrams are used by software developers and business professionals to understand requirements for a new system or to document an existing process. Sequence diagrams are sometimes known as event diagrams or event scenarios.

Sequence Diagram Notations –

- **Actors –** An actor in a UML diagram represents a type of role where it interacts with the system and its objects. It is important to note here that an actor is always outside the scope of the system we aim to model using the UML diagram.

- **Lifelines–** A lifeline is a named element which depicts an individual participant in a sequence diagram. So basically each instance in a sequence diagram is represented by a lifeline. Lifeline elements are located at the top in a sequence diagram.

- **Messages –** Communication between objects is depicted using messages. The messages appear in a sequential order on the lifeline. We represent messages using arrows. Lifelines and messages form the core of a sequence diagram

- **Guards –** To model conditions we use guards in UML. They are used when we need to restrict the flow of messages on the pretext of a condition being met. Guards play an important role in letting software developers know the constraints attached to a system or a particular process.

Uses of sequence diagrams –

- Used to model and visualise the logic behind a sophisticated function, operation or procedure.

- They are also used to show details of UML use case diagrams.

- Used to understand the detailed functionality of current or future systems.

- Visualise how messages and tasks move between objects or components in a system.

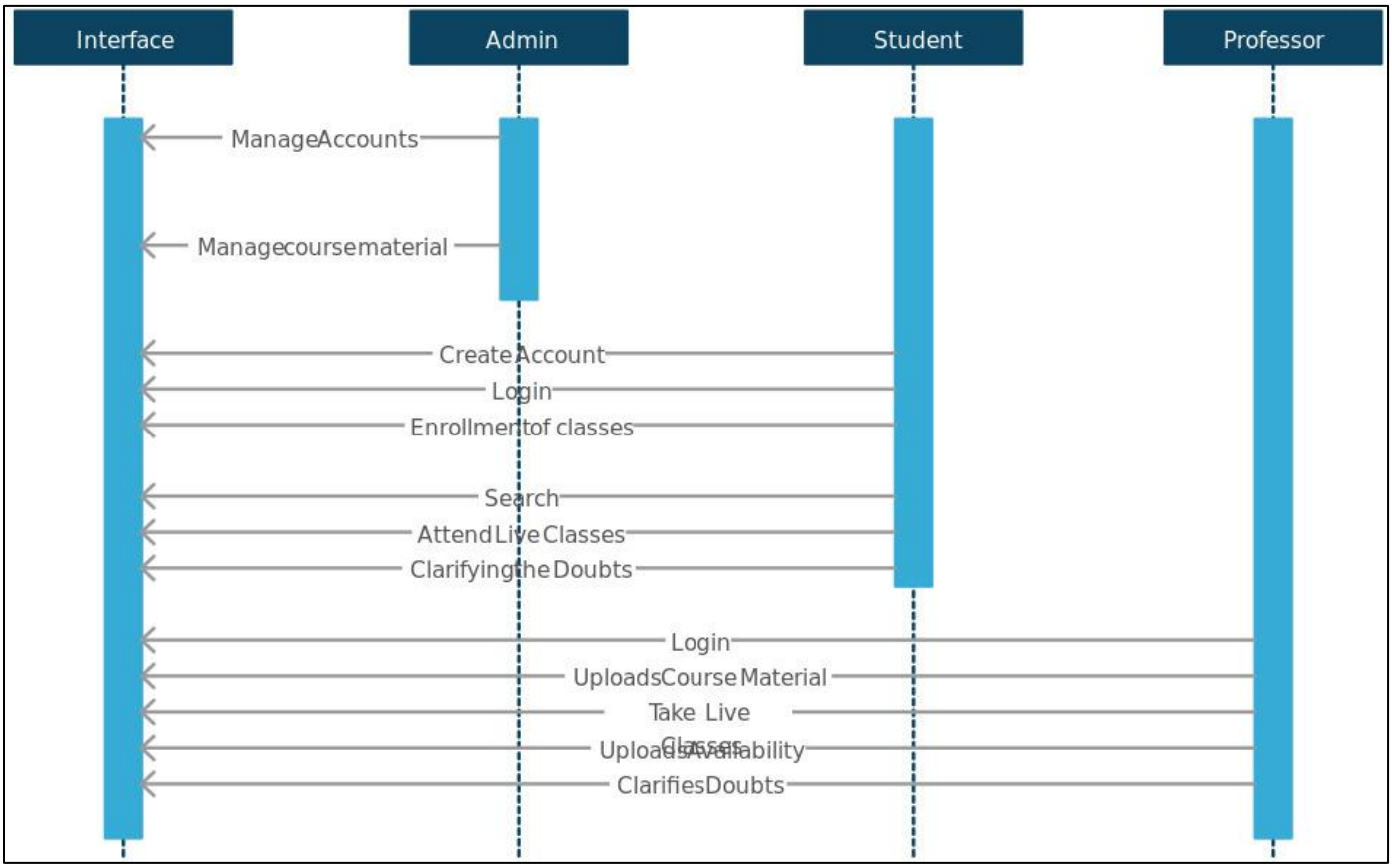


Fig. 4 Sequence Diagram

4.4 COLLABORATIVE DIAGRAM

The collaboration diagram is used to show the relationship between the objects in a system. Both the sequence and the collaboration diagrams represent the same information but differently. Instead of showing the flow of messages, it depicts the architecture of the object residing in the system as it is based on object-oriented programming. An object consists of several features. Multiple objects present in the system are connected to each other. The collaboration diagram, which is also known as a communication diagram, is used to portray the object's architecture in the system.

A collaboration diagram, also known as a communication diagram, is an illustration of the relationships and interactions among software objects in the Unified Modeling Language (UML). These diagrams can be used to portray the dynamic behavior of a particular use case and define the role of each object.

Collaboration diagrams are created by first identifying the structural elements required to carry out the functionality of an interaction. A model is then built using the relationships between those elements. Several vendors offer the software for creating and editing collaboration diagrams.

The four major components of a collaboration diagram are:

- **Objects-** Objects are shown as rectangles with naming labels inside. The naming label follows the convention of object name: class name. If an object has a property or state that specifically influences the collaboration, this should also be noted.

- **Actors-** Actors are instances that invoke the interaction in the diagram. Each actor has a name and a role, with one actor initiating the entire use case.

- **Links-** Links connect objects with actors and are depicted using a solid line between two elements. Each link is an instance where messages can be sent.

- **Messages-** Messages between objects are shown as a labeled arrow placed near a link. These messages are communications between objects that convey information about the activity and can include the sequence number.

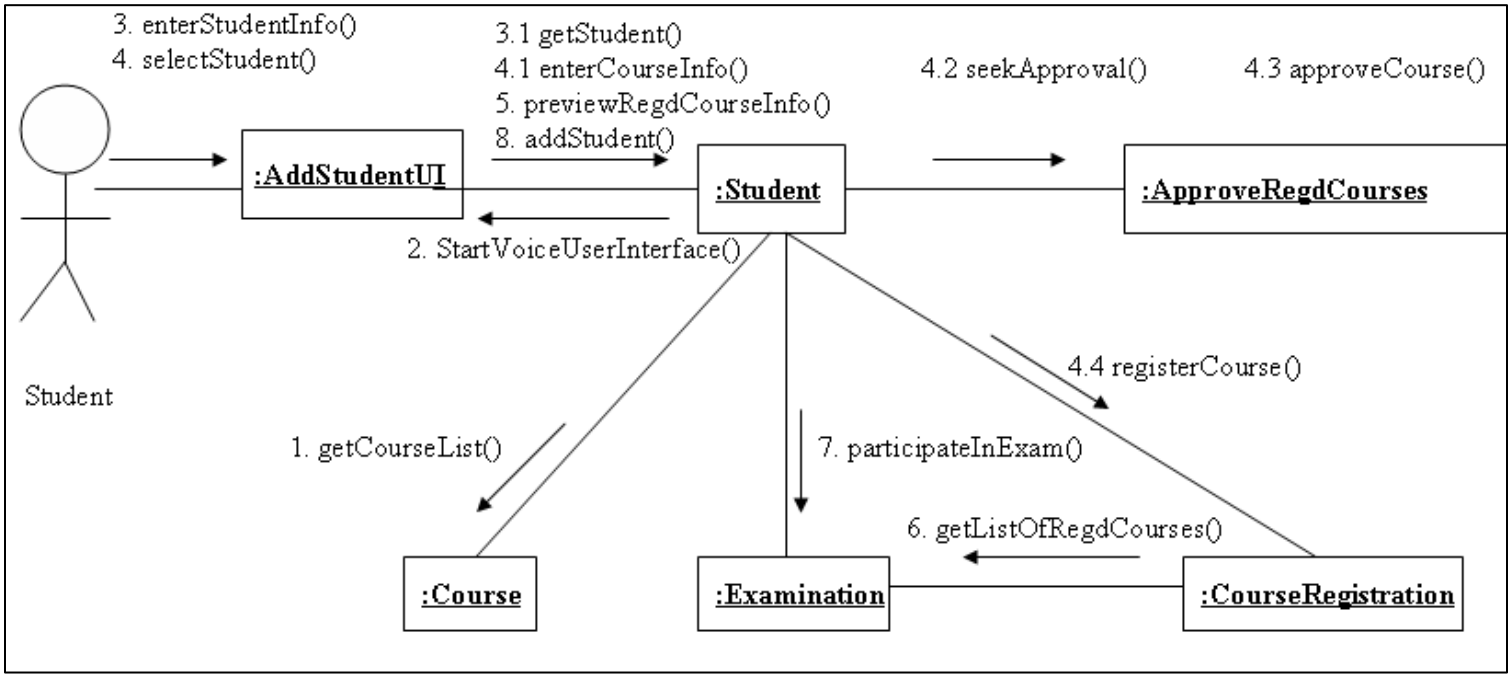


Fig. 5 Collaborative Diagram

CHAPTER 5

FORM DESIGN

5.1 HOME PAGE

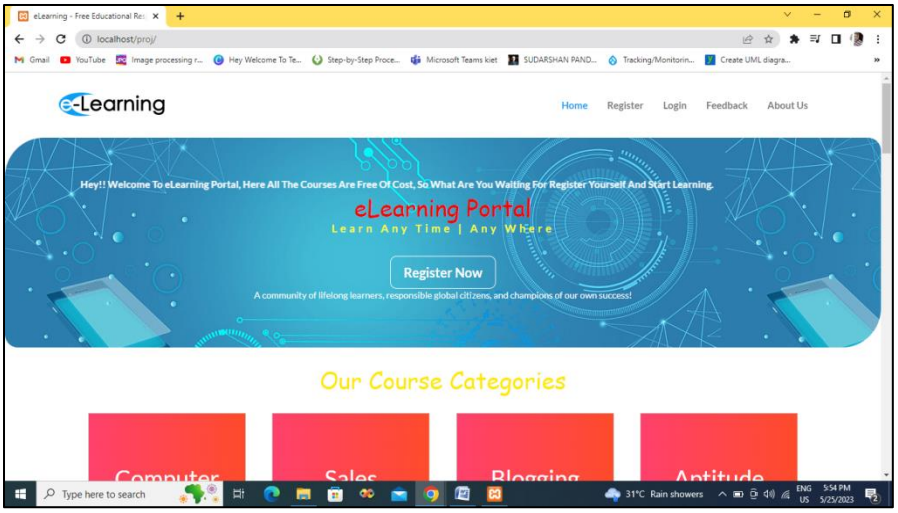


Fig 6 Home Page

5.2 COURSE CATEGORY

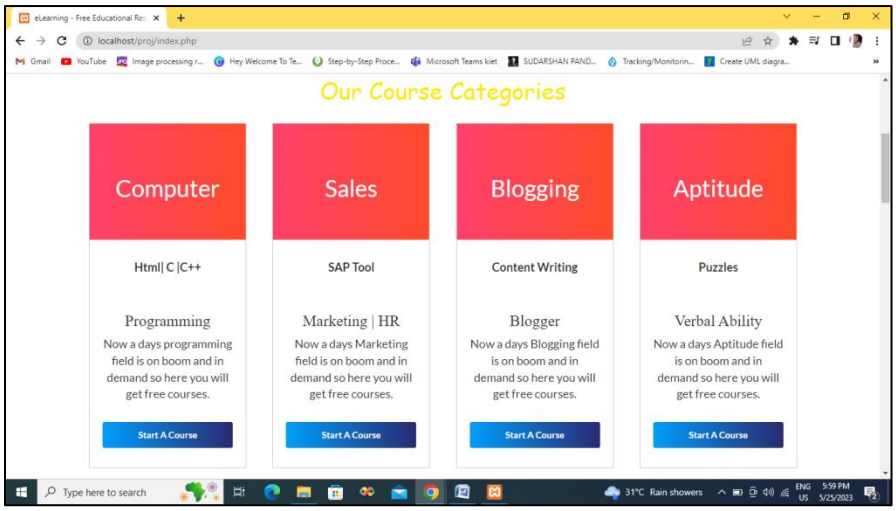


Fig. 7 Course Category

5.3 COURSES

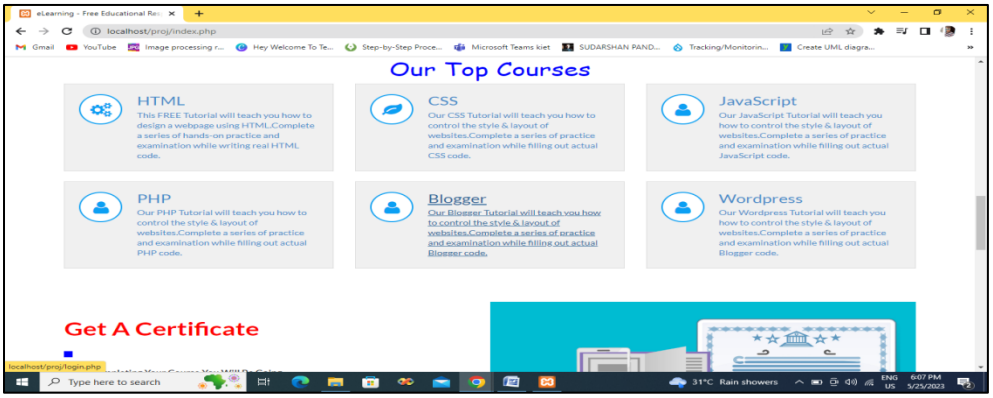


Fig. 8 Courses

5.4 CERTIFICATE PAGE

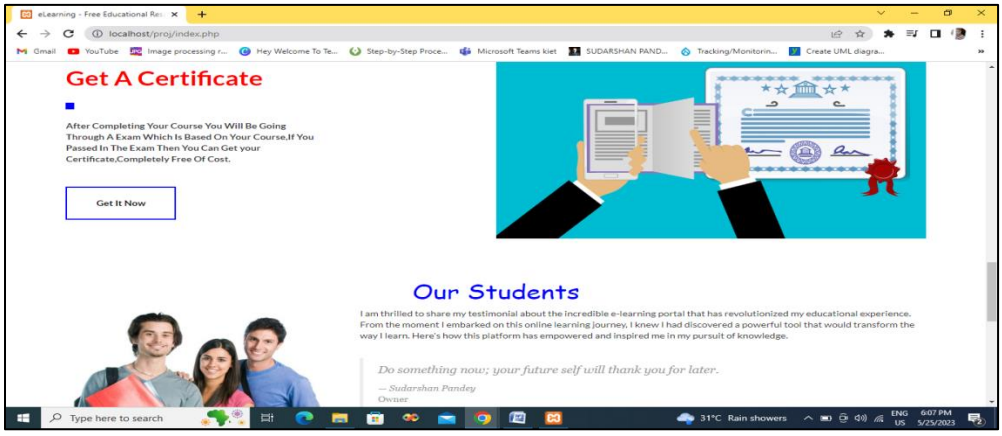


Fig. 9 Certificate Page

5.5 STUDENT REGISTRATION

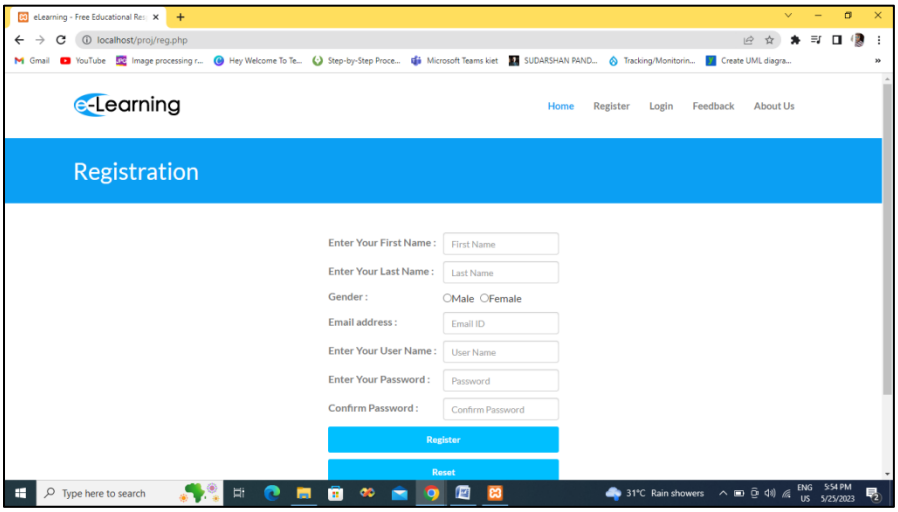


Fig. 10 Student Registration

5.6 STUDENT DASHBOARD

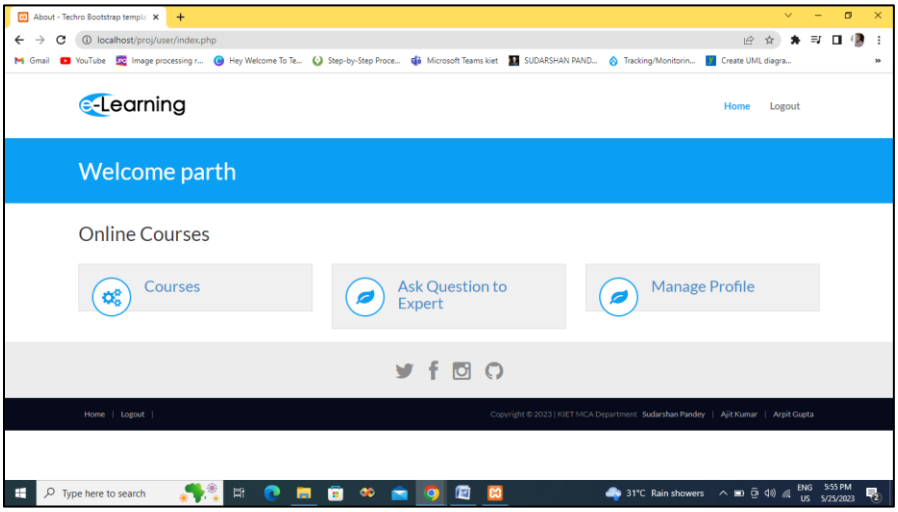


Fig. 11 Student Dashboard

5.7 STUDENT PROFILE

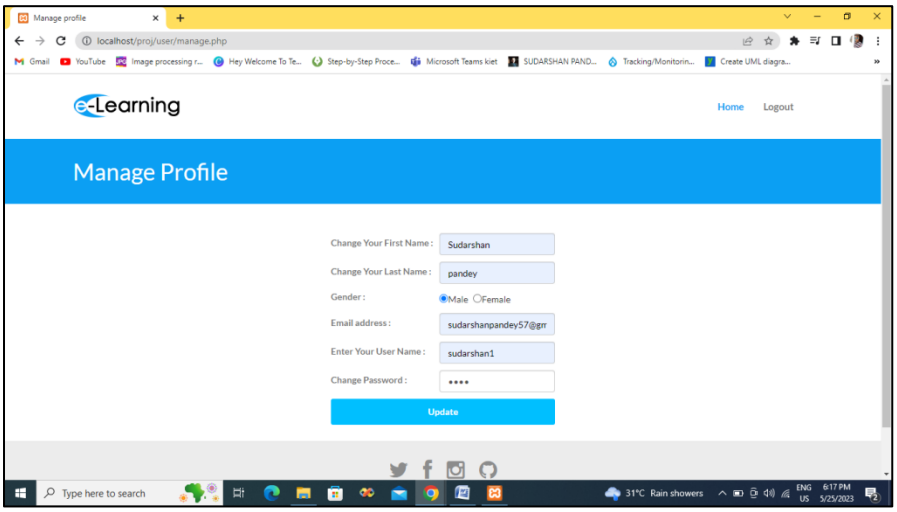


Fig. 12 Student Profile

5.8 ASK QUESTION PAGE

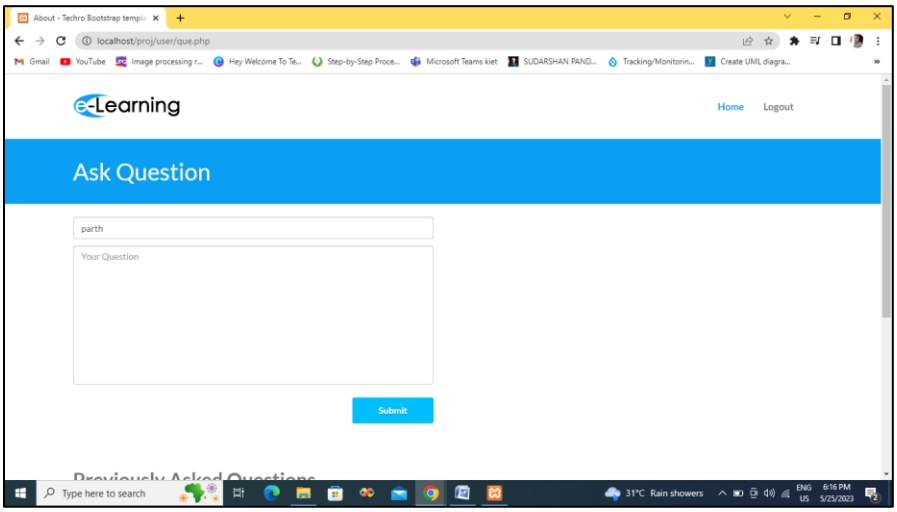


Fig. 13 Ask Ques Page

5.9 LOGIN PAGE

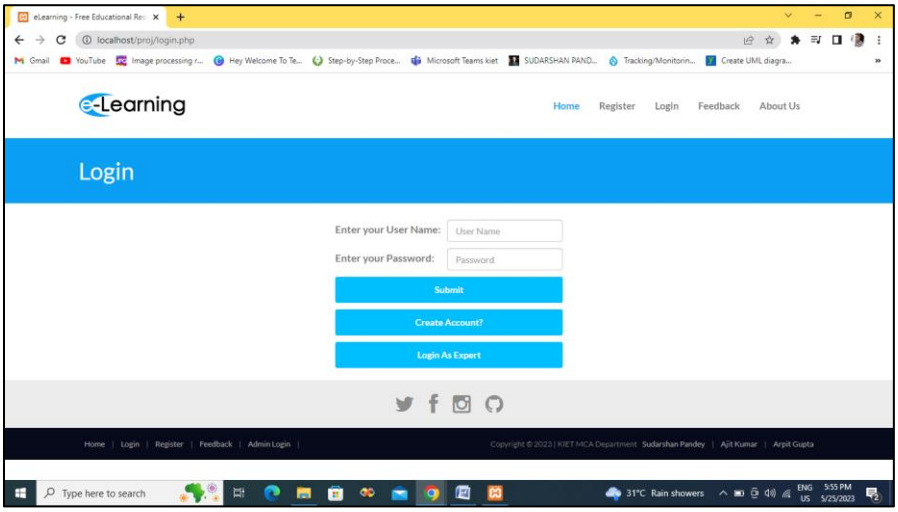


Fig. 14 Login Page

5.10 ABOUT US PAGE

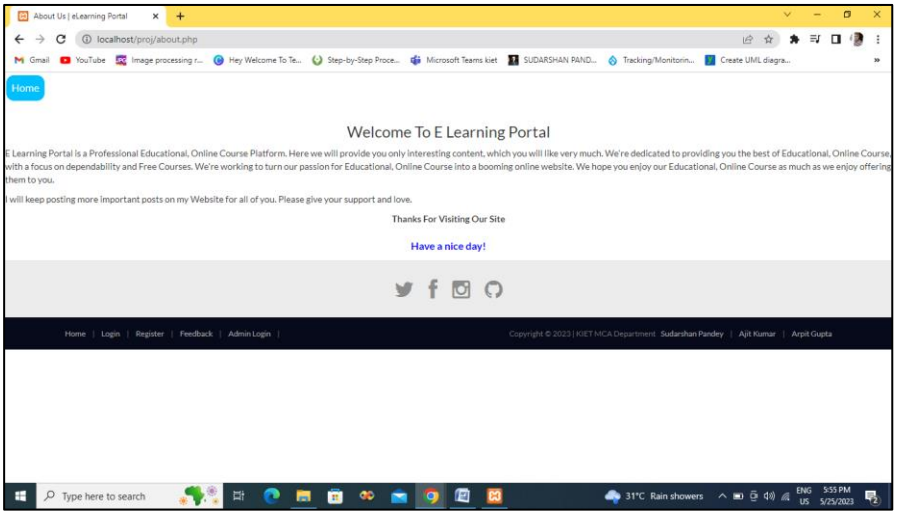


Fig. 15 About Us Page

5.11 EXPERT REGISTRATION

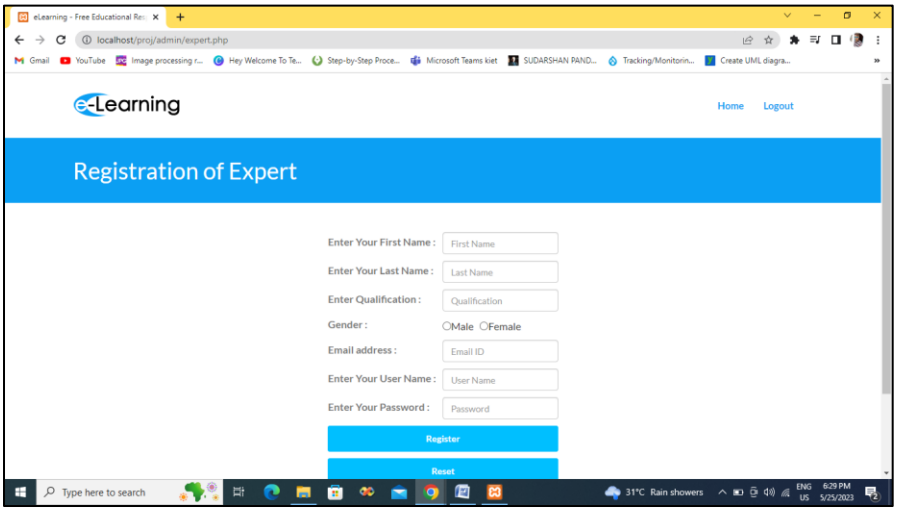


Fig. 16 Expert Registration Page

5.12 EXPERT DASHBOARD

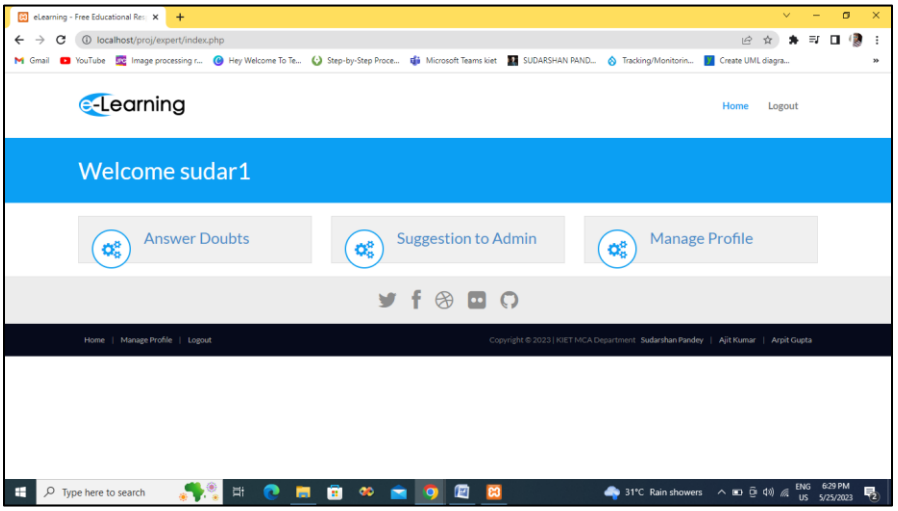


Fig. 17 Expert Dashboard

5.13 ADMIN OPERATION PAGE

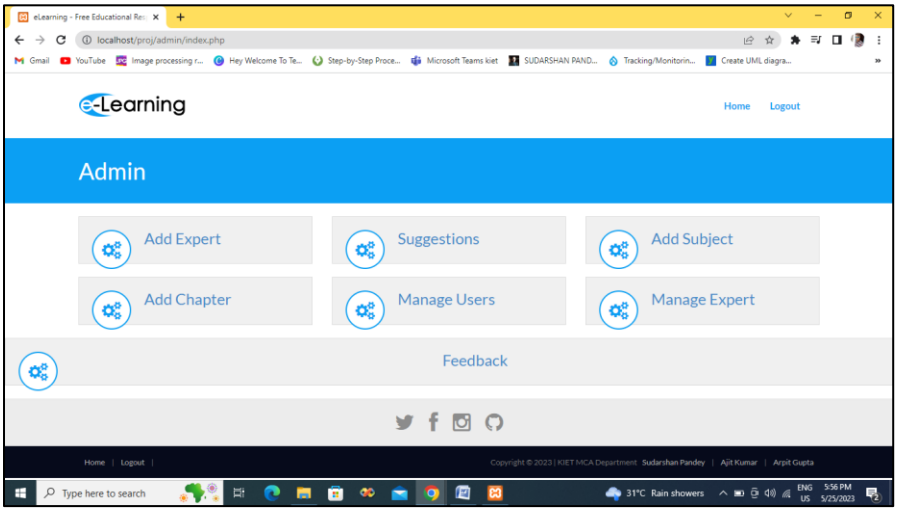


Fig. 18 Admin Dashboard Page

5.14 FEEDBACK PAGE

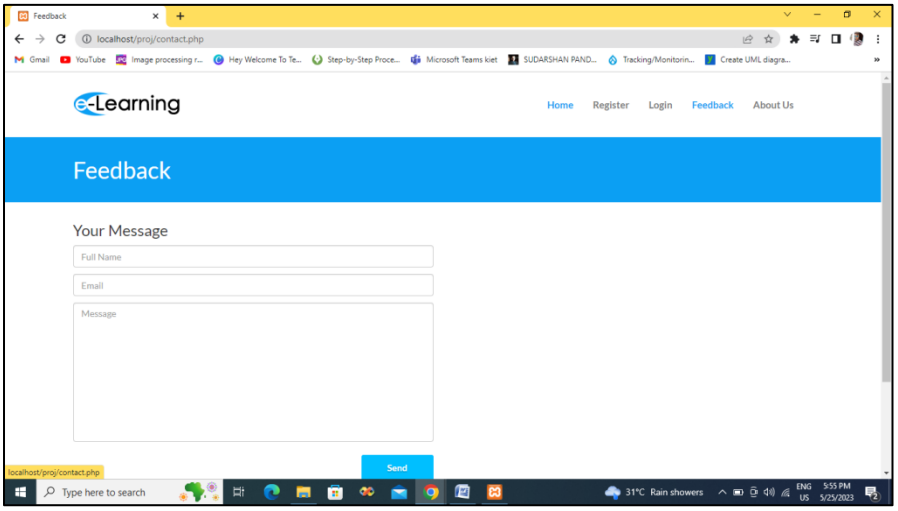


Fig. 19 FeedBack Page

CHAPTER 6

CODING

6.1 LOGIN PAGE CODING

```
<?php
session_start();
if(isset($_SESSION['id_user']) || isset($_SESSION['id_company'])) {
header("Location: index.php");
exit();
}
?>
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<title>E Learning Portal</title>
<!-- Tell the browser to be responsive to screen width -->
<meta content="width=device-width, initial-scale=1, maximum-scale=1, user-scalable=no"
name="viewport">
<!-- Bootstrap 3.3.7 -->
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/twitter-
bootstrap/3.3.7/css/bootstrap.min.css">
<!-- Font Awesome -->
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-
awesome.min.css">
<!--Ionicons -->
<link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/ionicons/2.0.1/css/ionicons.min.css">
<!-- Theme style -->
<link rel="stylesheet" href="css/AdminLTE.min.css">
<!--iCheck -->
<link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/iCheck/1.0.2/skins/square/blue.css">
<!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media queries -->
<!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
<!--[if lt IE 9]>
```

6.2FEEDBACK CODE

```
<?php
session_start();

if(empty($_SESSION['id_company'])) {
header("Location: ../index.php");
exit();
}
require_once("../db.php");

if(isset($_POST)) {
$to  = $_POST['to'];
$subject = mysqli_real_escape_string($conn, $_POST['subject']);
$message = mysqli_real_escape_string($conn, $_POST['description']);
$sql = "INSERT INTO mailbox (id_fromuser, fromuser, id_touser, subject, message) VALUES
('$_SESSION[id_company]', 'company', '$to', '$subject', '$message')";
```

6.3DATABASE CONNECTION CODE

```
<?php
//Your Mysql Config
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "E Learning_portal";
//Create New Database Connection
$conn = new mysqli($servername, $username, $password, $dbname);
//Check Connection
if($conn->connect_error) }
```

CHAPTER 7

TESTING

Testing is a process of executing a program with the intent of finding bugs that makes the application fail to meet the expected behavior. System Analysis and Design process including Requirement Analysis, BusinessSolution Options, Feasibility Study, Architectural Design was discussed in previouschapter.Generally Software bugs will almost always exist in any software module. But it isnot because of the carelessness or irresponsibility of programmer but because of thecomplexity. Humans have only limited ability to manage complexity. This chapterdiscusses about the testing of the solution and implementation methodologies. Regardless of the development methodology, the ultimate goal of testing is to make sure that what is created does what it is supposed to do. Testing plays a critical role for assuring quality and reliability of the software. I have included testing as a part of development process. The test cases should be designed with maximum possibilities of finding the errors or bugs.Software Testing is the process of executing a program or system with the intent offinding errors. The scope of software testing often includes examination of code aswell as execution of that code in various environments and conditions. Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements. Testing stage of the project can be explained as below and system was tested for all these stages. Various level of testing are as follows

7.1 TESTING LEVELS

Unit testing: Unit testing tests the functionality of individual units of source code. It is thesmallest component of a testable software that works in isolation with other parts of thecode. I have done unit testing for various individual components of the source code touncover errors within the boundary of the application.

Integration testing: Integration testing focuses on the design and construction of thesoftware. Here the individual components that are tested using unit tests are combined andtested as a group. Its primary purpose is to expose the defects associated with theinterfacing of modules. It checks if the modules perform the desired functionality whenintegrated together

System testing: System testing is performed on a completely integrated system to see if itmeets the requirements,System Testing is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements. In system testing, integration testing passed components are taken as input.

Regression testing: Regression testing aims at verifying the functionality of the softwarethat is previously tested and to which changes are made. It is to ensure the old software stillworks with new changes.

Acceptance testing: Acceptance testing is conducted to verify if the system compliance the business requirements.Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements.

Adhering to the levels of testing, Unit testing is performed on individual components of the system ensuring the expected behavior. Later, I have integrated various components together and performed Integration testing. Once the integration testing is done, I have performed System 30 testing and ensured the application works as per the requirements. Finally, acceptance testing is performed to check if the client accepts the system

Browser Testing : As this project has same web interface for both customer and Admin ,and Every different person uses different Browser so this Project Is Successfully Tested In Google Chrome | Edge | Firefox...etc

- All Its module are working properly and the project is best viewed both in Computer and in Mobile also.
- The main requirement for this project that you should have good internet connection.

Performance Testing : Performance testing is performed to determine how well the system can perform in terms of responsiveness under all kinds of load. The web application is tested to see if it can sustain huge amount of requests providing higher throughput under different loads. I have simulated multiple hits on various pages of the application to evaluate the overall performance.

7.2 TEST CASE

7.2.1 For Student Registration

Name	Type
user_id	1
first_name	Sudarshan
last_name	Pandey
gender	Male
email_id	sudarshan@gmail.com
user_name	Sudarshan1
password	*******

Table 10 Test Case ForStudent Registration

7.2.2 For New Subject

Name	Type
subject_id	101
title	HTML
info	Hyper Text Markup Language
d_info	Upto 200 words

Table 11 Test Case For New Subject

7.2.3 For Expert Registration

Field	Type
expert _id	11
first_name	Sudarshan
Qualification	MCA
gender	Male
email _id	sudarshan@gmail.com
user _name	Sudarshan11
password	*******

Table 12 Test Case For Expert Registration

7.2.4 Login Case

Field	Type
Email	sudarshanpandey@gmail.com
Password	******

Table 13 Test Case For Login

7.2.5 Question Table Test Case

Name	Type
ques _id	101
user _id	110
user_name	sudarshan
description	Upto 50 words

Table 14 Test Case For Ques Table

7.2.6 Answer Table Test case

Name	Type
expert_id	101
user _id	201
ques _id	110
question	What is html
answer	Hypertext Markup Language

Table 15 Test Case For Answer Table

7.2.7 Feedback Table Test case

Name	Type
description	Upto 50 words
user_id	001

Table 16 Test Case For Feedback Table

BIBLIOGRAPHY

[1] Introduction To PHP Retrieved on 10/10/2022from
https://www.tutorialspoint.com/php/index.htm