

ELEARNING PLATFORM

UCS 503 Software Engineering Project Report

End-Semester Evaluation

Submitted by:

102217005	SUDANSH RANA
102217026	SAKSHAM DHIMAN
102217029	AVNEESH JARANGAL
102217030	PRERIT BHAGAT

BE Second Year- CSE

Group No: 4

**Submitted to:
MS.RITU**



Computer Science and Engineering Department

TIET, Patiala2024

Table of Contents

Chapter	Topic	Page no.
1	Project Selection Phase	3
1.1	Software Bid	3
1.2	Project Overview	7
2	Analysis Phase	7
2.1	Use Case	7
2.1.1	Use Case Diagram	7
2.1.2	Use Case template	8
2.2	Activity Diagram and Swimlane Diagram	10,11
2.3	Data Flow Diagram	12
2.3.1	DFD level 0	12
2.3.2	DFD level 1	12
2.3.3	DFD level 2	13
2.4	Software Requirement Specification in IEEE Format	13
2.5	User Stories and Story Cards	19
3	Design Phase	20
3.1	Class Diagram	20
3.2	Sequence Diagram	21
3.3	Collaboration diagram	22
3.4	State chart Diagram	23
4	Implementation	23
4.1	Component diagram	23
4.2	Deployment diagram	24
4.3	Screenshots	25
5	Testing	28
5.1	Test Plan	28
5.2	Test case	29
5.3	Test Report	33

1. Project Selection Phase

1.1.

Software Bid/ Project Teams

UCS 503- Software Engineering Lab

Group: 2CS1

Dated: 03/02/2024

Team Name: "Team Elite"

Team ID:

Please enter the names of your Preferred Team Members. :Sudansh Rana, Saksham Dhiman, AvneeshJarangal, Prerit Bhagat

Name	Roll No	Project Experience	Programmin g Language used	Signature
SUDANSH RANA	102217005	Web Development	Html, CSS, JS	Sudansh
SAKSHAM DHIMAN	102217026	Web Development	Html, CSS, JS, MongoDB	Saksham
AVNEESH JARANGAL	102217029	Web Development	Html, CSS, JS	Avneesh
PRERIT BHAGAT	102217030	Web Development	Html, CSS, JS, Python	Prerit

Programming Language / Environment Experience

List the languages you are most comfortable developing in, **as a team**, in your order of preference. Many of the projects involve Java or C/C++ programming.

1. C/C++

2.HTML, CSS & JS

3.PYTHON

Choices of Projects:

	Project Name	Unique Selling Point
First Choice	<p>E-Learning Platform</p> <p>Features:</p> <ol style="list-style-type: none"> 1. Learning Delivery: They offer learner self-registration, learners' profiles with contact data and information about courses, exams, certificates, online assignments for learners, and learner performance assessment 2. User-friendly Interface: The website should be accessible across different devices (desktops, tablets, and mobile phones) with a responsive design to accommodate various learning preferences. 3. Interactive Learning Content: Incorporate multimedia elements such as videos, audio, animations, and interactive simulations to engage learners and make the content more dynamic. 4. Secure and Scalable Platform: Ensure the platform adheres to strict security standards to protect user data, personal information, and payment details. 5. Scalability: Build a scalable infrastructure that can accommodate a growing number of users and courses without compromising performance. 	<ul style="list-style-type: none"> • Contains a wide range of subjects for students to help them during exams. • Secure and reliable login Interface • Offers different kind of study material including notes, previous years papers, video lecture, reference books etc. with a single click • Website is accessible across different devices (desktops,laptop,mobiles) with a responsive design

<p>Second Choice</p>	<p>E-Commerce Website</p> <p>Features:</p> <ol style="list-style-type: none"> 1. User-friendly Interface: Responsive Design: Optimize the website for various devices, ensuring a consistent and user-friendly experience on desktops, tablets, and mobile phones. 2. Product Management and Display: High-Quality Product Images and Descriptions: Provide clear, high-resolution images and detailed product descriptions to help customers make informed purchasing decisions. 3. Secure Payment Options: SSL Encryption: Implement Secure Socket Layer (SSL) encryption to secure sensitive customer data, such as payment details, and build trust with users. 4. Easy-to-Use Shopping Cart: Provide a simple and intuitive shopping cart system that allows users to review their selected items, make adjustments, and proceed to checkout effortlessly. 	<ul style="list-style-type: none"> • Curated Product Selection that caters to a specific target audience, providing a unique and specialized shopping experience. • User-Friendly and Intuitive Interface • Offer exclusive products or establish partnerships with brands that are not readily available elsewhere. • Incorporate interactive user-generated product reviews to give customers a better understanding of the products they are interested in.
----------------------	--	--

Third Choice	<p>Movie catalogue</p> <p>Features:</p> <ol style="list-style-type: none"> 1. Search and Filter Options: Filtering options to refine search results, enabling users to find movies that match specific preferences or criteria. 2. Detailed Movie Information: Comprehensive and well-organized information pages for each movie, including details such as synopsis, cast and crew information, release date, genre, runtime, ratings, and reviews. 3. User Ratings and Reviews: A rating system that aggregates user scores to provide an overall rating for each movie, helping users make informed decisions about what to watch. 4. Personalized User Accounts: User account functionality that allows individuals to create profiles, save their favorite movies, create watch lists, and track their viewing history. 	<ul style="list-style-type: none"> • Personalized Recommendations • User-Generated Content and Reviews • Integrate social media features that allow users to share their favorite movies, reviews, and recommendations with their social networks
Fourth Choice	<p>Transportation System</p> <p>Features:</p> <ol style="list-style-type: none"> 1. Route Optimization and History: Route optimization tools that provide insights into the most efficient paths for transportation. 2. Historical tracking: Allow users to review past routes and analyze the performance of their transport operations. 3. Alerts and Notifications: Customizable alert system to notify users about critical events or changes in the status of their shipments, such as delays, route diversions, or successful deliveries 	<ul style="list-style-type: none"> • Efficiency and Reliability • User-Friendly Platform • Affordability and Flexible Pricing • Community Engagement and Feedback

Additional Remarks/ Inputs

Please tell us about any other factors that we should take into consideration (e.g., if you really would like to work on a project for some particularly convincing reason).

As a team, we would like to work on the E-learning Platform or E-commerce Website due to their relevance. As student, it's important for us to keep track of our resources i.e. from where to study. A Platform that would provide material or content (like pdf etc.) to students.

The E-commerce website on the other hand, is one that serves a greater purpose. The popularity of home delivery websites or platforms has encouraged us to pursue this idea.

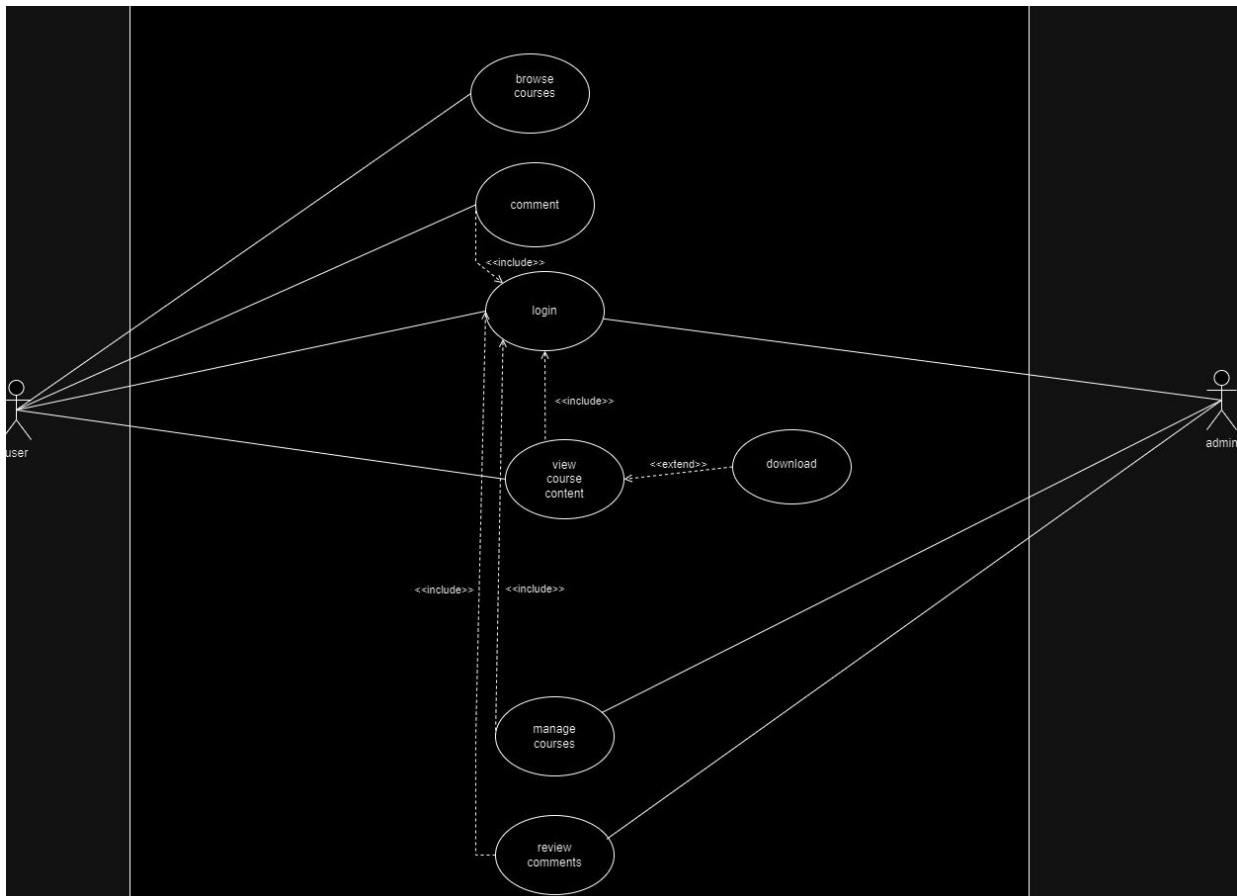
Both would help us make use of front-end and back-end coding. Therefore, we request you to kindly consider the same

1.2. Project Overview

E-LearnPro is a e-learning platform tailored specifically for first-year college students. It serves as a comprehensive educational resource hub, offering a diverse range of lectures, and notes across various subjects. The platform is designed to enhance the learning experience of students transitioning into higher education. It is entirely free of charge, ensuring equal access to quality education for all students, regardless of financial constraints. The platform's user-friendly design facilitates easy navigation and exploration of educational materials.

2. Analyses Phase

2.1.1. Use Case Diagram



2.2 Use Case Templates

Table 1.1

1. Use case title	Browse Course
2. Abbreviated title	Browse Course
3. Use case id	1
4. Actors	User
5. Description With this facility, users can view and search for their courses.	
5.1. Preconditions The user must be logged into the E-learn website.	
5.2. Task sequence 1. Search bar will be shown by the system. 2. Enter the name of the course. 3. The system will show search results by clicking the search button.	
5.3. Post conditions 1. User can view his desired results. 2. User can go for another search.	
6. Modification History Date: 01/05/2024	
7. Author: Sudansh	

Table 1.2

1. Use case title	View course content
2. Abbreviated title	View course content
3. Use case id	2
4. Actors	User
5. Description With this facility, users can view and search for all course contents available.	
5.1. Preconditions The user must be logged in to the website.	
5.2. Task sequence 1. The system will provide list of courses on home page.	
5.3. Post conditions 1. User can view his desired results.	
6. Modification History Date: 01/05/2023	
7. Author: Saksham	

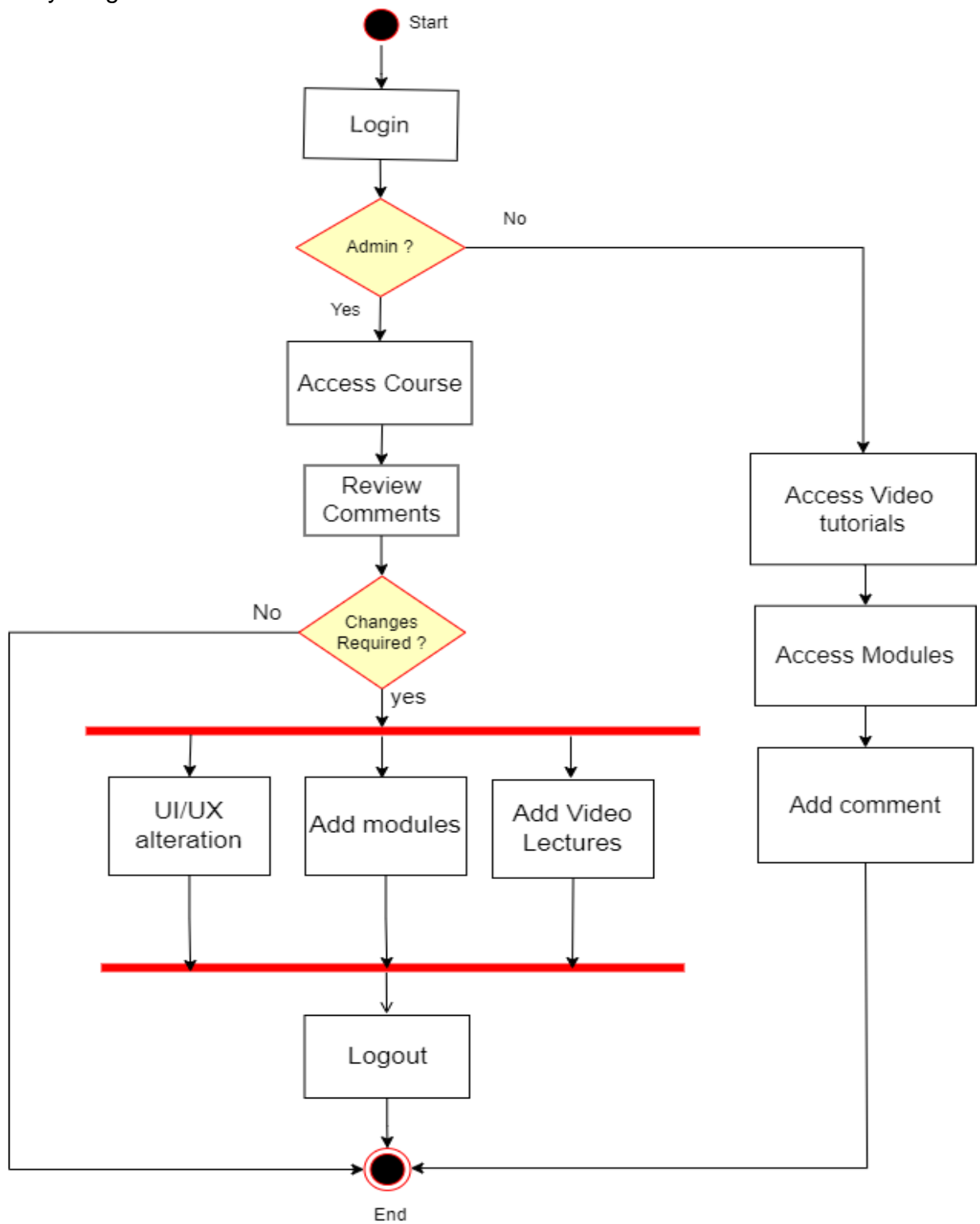
Table 1.3

1. Use case title	Login
2. Abbreviated title	Login
3. Use case id	3
4. Actors	Admin/user
5. Description With this facility, users and admin can logged into system and can perform further operations.	
5.1. Pre-conditions The user must have basic knowledge to surf or render a website	
5.2. Task sequence 1. User id and password will be asked. 2. Successfully logging in of user.	
5.3. Post conditions 1. User can perform further operations like view courses, contact etc.	
6. Modification History Date: 01/05/2024	
7. Author: Sudansh	

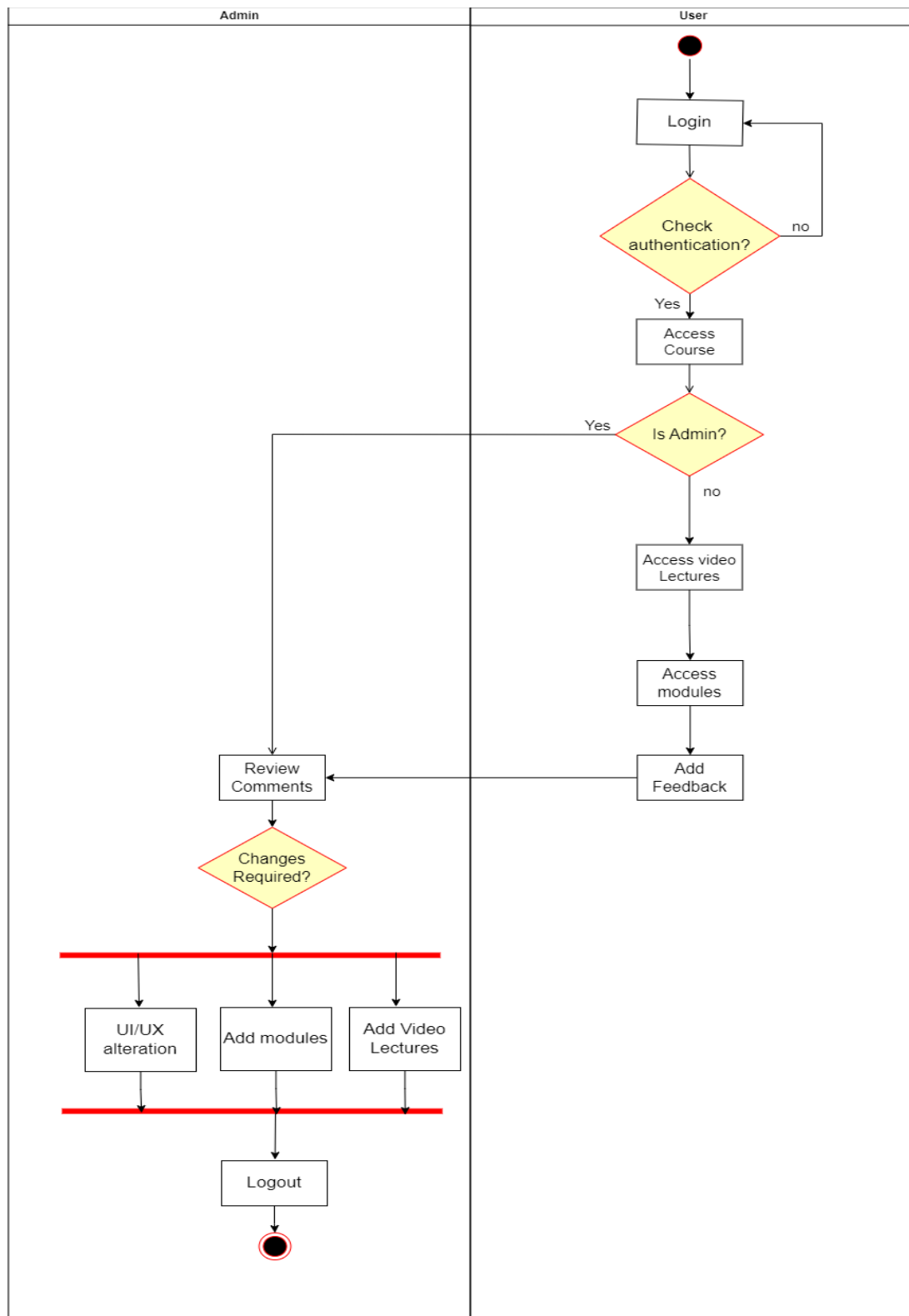
Table 1.4

1. Use case title	Manage course
2. Abbreviated title	Manage course
3. Use case id	4
4. Actors	admin
5. Description With this facility, Admin can remove or add the course materials.	
5.1. Pre Conditions The Admin must be logged in to the E-learn website.	
5.2. Task sequence 1. Click on 'Disabled' button 2. Enter the name of the course which admin wants to remove or add.	
5.3. Post conditions 1. Admin can add new courses. 2. Admin can remove obsolete courses.	
6. Modification History Date : 01/05/2024	
7. Author: Saksham	

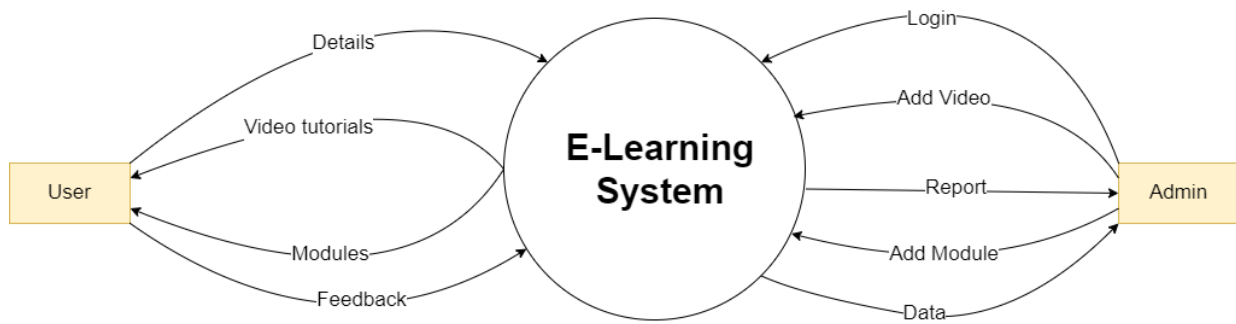
2.2 Activity Diagram



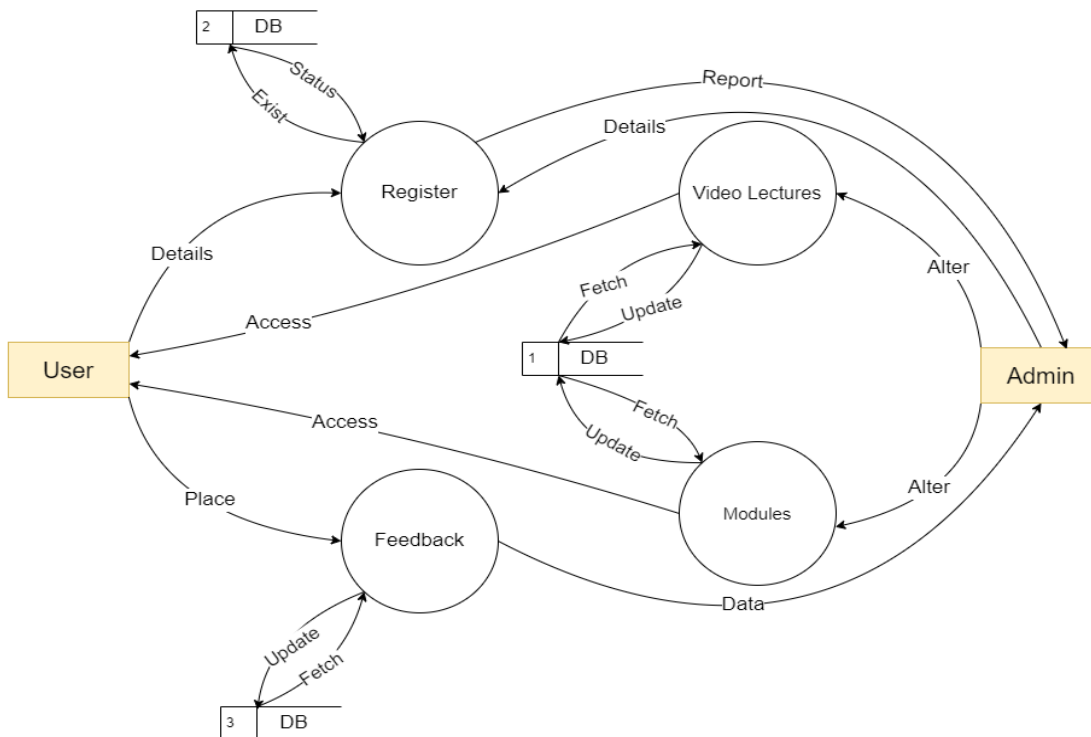
Swim Lane Diagram



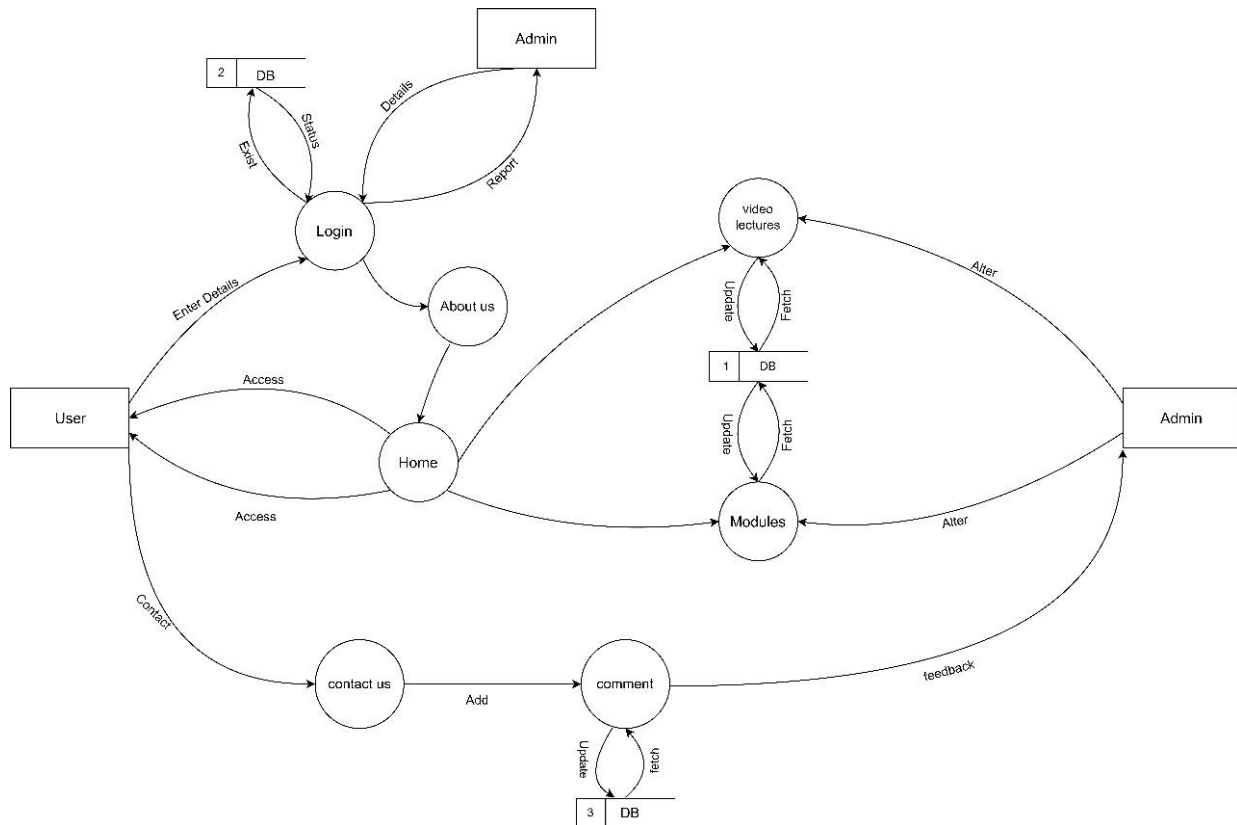
2.3 Data Flow Diagram



Context Level Diagram



Level 1 DFD



DFD Level-2

2.3 Software Requirement Specification IEEE Format

2.4.1. Introduction

2.4.1.1 Purpose

The purpose of this SRS document is to provide a detailed overview of our software product E-learning Platform, a web-based E-learning platform. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality.

2.4.1.2 Definitions, Acronyms, and Abbreviations

Definitions

Term	Definition
Administrator	A person who has all the authority of database
User	A person who can access course material
Comment	A user comment is a piece of text input by an individual.
Authentication	physical & behavioral characteristics for authentication purposes

2.4.1.3 Intended Audience and Reading Suggestions

This document is intended for students who are entering their first year of college, university, or any educational institution. They may vary in age, academic background, and familiarity with technology.

2.4.1.4 Product Scope

E-learning platform aims to develop a safe, user-friendly website that offers essential branch-specific materials. The platform will ensure that user receive accurate and consolidated course materials. In this system the user has direct access to all course materials and can download them.

The software must be able to perform the following operations:

- Authentication:

It must be able to authenticate the username and password of administrator in order to provide security.

- Download:

User has privilege to access and download the course material.

- Update course details

Administrator must be able to update the course details in the database & system must not permit the user to alter the course details.

- Comment:

User can dropdown comments as feedback which will be further acknowledged by the administrator

Initially we plan to design a prototype of the software which will be incremented future based on the feedback evaluation.

2.4.1.5 Overview

- The remaining sections of this document provide a general description, including characteristics of the users of this project, the product's hardware, and the functional and data requirements of the product. General description of the project is discussed in section 2 of this document. Section 2 gives the functional requirements, data requirements and constraints and assumptions made while designing the system. It also gives the user viewpoint of product use. Section 3 gives the specific requirements of the product. Section 3.0 also discusses the external interface requirements and gives detailed description of functional requirements.

2.4.2. Overall Description

2.4.2.1 Product Perspective

- ELearnPro is a E-learning platform that aims to provide user a safe and friendly website that offers essential branch-specific materials.

2.4.2.2 Product Functions

The Product should be able to perform the following operations:

- Learning Delivery:

It offers wide range of study material, course content of different universities

at single place.

- **User-friendly Interface:**

The website should be accessible across different devices (desktops, tablets, and mobile phones) with a responsive design to accommodate various learning preferences.

- **Interactive Learning Content:**

Incorporate multimedia elements such as videos (links), to engage learners and make the content more dynamic.

- **Secure Platform:**

Ensure the platform adheres to strict security standards to protect user data, personal information, and payment details.

- **Scalability:**

Build a scalable infrastructure that can accommodate a growing number of users and courses without compromising performance.

2.4.2.3 User Characteristics

Users:

Characteristics: Who interact with the platform.

Roles: primary goal of user is to seek knowledge from course material and can interact through feedback

Administrators:

Characteristics: Administrators are individuals responsible for overseeing the overall operations. They often have decision-making authority, technical expertise, and a deep understanding of the platform's goals and objectives.

Roles: Administrators have the highest level of access and control within E learning website. They are responsible for managing comments and course contents.

2.4.2.4 Operating Environment

- **Platform Compatibility:**

E-LearnPro is designed to operate as a web-based application accessible through modern web browsers. This includes popular browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge. The platform is optimized for compatibility with the latest versions of these browsers to ensure a seamless user experience across devices and operating systems

- **Device Compatibility:**

E-LearnPro is compatible with a wide range of devices, including desktop computers, laptops, tablets, and smartphones. The platform's responsive design and adaptive layout ensure optimal performance and usability on different screen sizes and resolutions.

2.4.2.5 Design and Implementation Constraints

- E-Learn Pro will be developed using a specific technology stack, including Typescript, React.js, Next.js, and MongoDB. These technologies have been chosen based on their compatibility, performance, scalability, and community support.
- Understanding the target audience's needs, preferences, and behaviors to tailor the UI accordingly.
- Designing a user interface (UI) involves creating a visually appealing and intuitive layout that enhances user experience.
- Designing the architecture and codebase in a modular and scalable manner to accommodate future growth and changes.

2.4.2.6 Assumptions and Dependencies

- There will be availability of Internet via 3G, 4G, 5G or Wi-Fi.
- Users have proficiency in the language(s) used in the e-learning content and communication channels.
- The admin possesses the technical expertise required to manage and maintain the e-learning platform, including server administration, database management, and troubleshooting technical issues.
- The user should have basic knowledge of web surfing.

2.4.3. Specific Requirements:

2.4.3.1 External Interface Requirements:

The Following list present the external interface requirements:

- The product requires very limited graphics usage with simple keyboard for taking the user input.
- The product does not require usage of sound. The hardware and operating system.

2.4.3.2 Detailed description of functional requirements:

2.4.3.2.1 Functional Requirements for Login Screen

Table shows the functional requirements for Login Screen

Purpose	This feature provides as an interface for Logging In.
Inputs	For Logging In: username and password are inputs.
Processing	On login request, the request is sent to database for processing and waiting for the response.
Outputs	If the response is success, then user is confirmed and logged in the site. Else cause of fail (error) is displayed to the user.

2.4.3.2.2 Functional Requirement for Search

Table below show the functional requirement for Search Tab.

Purpose	The primary purpose of the search bar is to allow users to find courses of their choice.
Inputs	Text input field for users to enter particular course.
Processing	Implementation of an efficient search algorithm to retrieve relevant results based on the provided query.
Outputs	On success display courses which user had searched. Else cause of fail (error) is displayed to the user.

2.4.3.2.3 Functional Requirements for Home Screen

Table shows the functional requirements for Home Screen

Purpose	This screen is used to display the list of courses and The footer contains links, information, and contact details that are commonly accessible across all pages of the website including support staff numbers and emails.
Inputs	Device interaction such as touch gestures, and taps for navigation across different screens.
Processing	Menu responds to selections by displaying the page containing the pre-defined informations.
Outputs	Display the courses.

2.4.3.2.4 Functional Requirements for Comments

Table below show the functional requirement for Comments.

Purpose	The primary purpose of the comment is to allow users to give their feedbacks.
Inputs	Text input field for users.
Processing	Submission of feedback to the database.
Outputs	Successful submission.

2.4.3.3 Detailed description of Non-functional requirements:

2.4.3.3.1 Performance Requirement

- Response Time: Pages should load quickly, ideally within 3 seconds or less. Slow loading times can frustrate users and lead to a higher bounce rate.
- Scalability: The website should be able to handle an increasing number of users without experiencing a significant decrease in performance.
- Reliability: The website should be available and accessible at all times, with minimal downtime. This can be achieved through redundancy and

failover mechanisms.

- Interoperability: Our system can connect and communicate with other entities in a coordinated manner without effort from the end users.

2.4.3.4 Quality Attributes

1. Accessibility:

- It should adhere to accessibility standards, ensuring that users with disabilities can navigate and use the website effectively.

2. Performance:

- The website must load quickly and perform well on a variety of terminals. Optimization should be implemented to minimize loading times and ensure smooth browsing.

3. Compatibility:

- The website should be compatible with different types of terminals, including desktop computers, laptops, tablets, and smartphones. It should be responsive and adjust its layout and functionality to suit various screen sizes and device capabilities.

4. Robustness:

- The website must tolerate a wide variety of input possibilities from users, including incorrect responses or unforeseen keystrokes. Error handling mechanisms should be in place to gracefully handle unexpected inputs and prevent system crashes or data loss.

5. Security:

- The website must prioritize security to protect users' personal information. Secure authentication mechanisms, encrypted connections should be implemented to safeguard data.

2.4.3.6 Other requirements:

None at this time.

4. Change History

Date

Reason for Changes

Version : 2024

Version 1.0 initial release

5. Document Approvers:

SRS for E-Learn Pro is approved by:

Name :

Designation:

Date:

2.5 User Stories and Story cards

#001	Browse Course
As a user, I want to browse the available courses so that I can find a course that interests me.	
Confirmation: <ol style="list-style-type: none">1. Success – course present and directed to course card<ol style="list-style-type: none">a. “Course is present”2. Failure – display message:<ol style="list-style-type: none">a. “ Course is not present”	

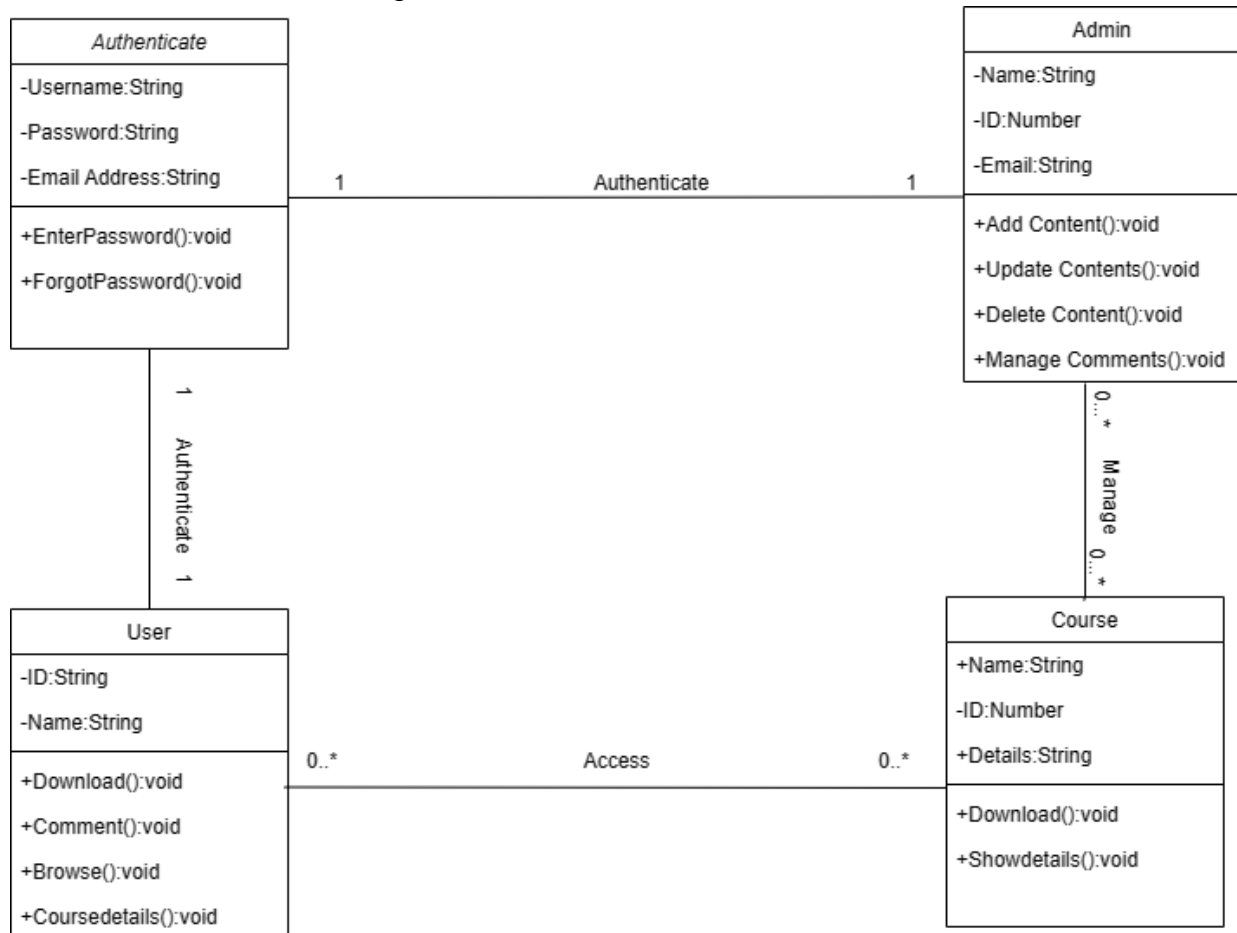
#002	User Login
As a user, I want to login into the system so that I can access the course	
Confirmation: <ol style="list-style-type: none">1. Success – Directed to Home Page.2. Failure – display message:<ol style="list-style-type: none">a. “invalid username and password”	

#003	User downloading the course material
As a user, I want to download course materials so that I can access them offline.	
Confirmation: <ol style="list-style-type: none">1. Success – Download will get started2. Failure – Will remain on same webpage	

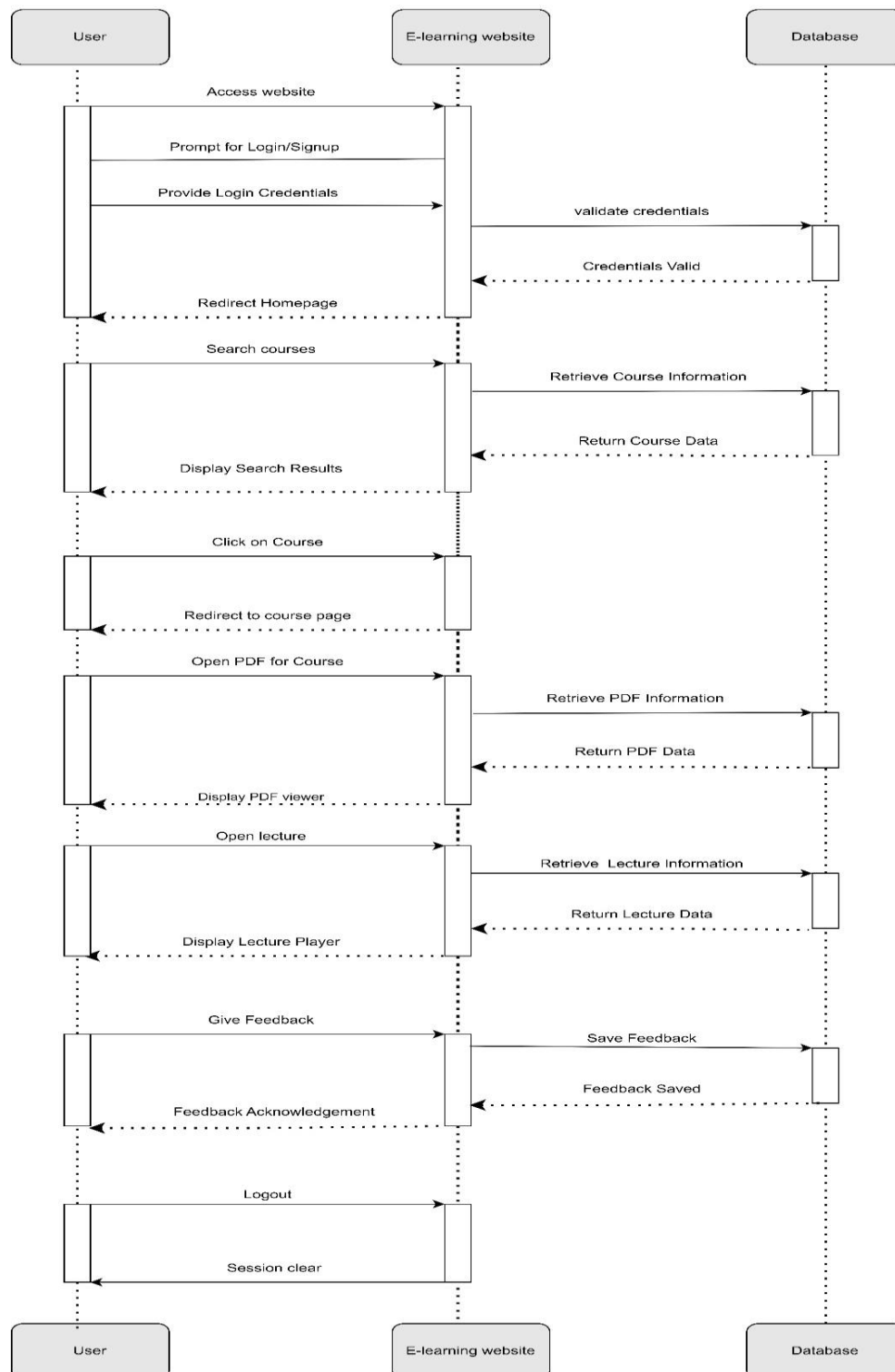
#004	User accessing the comment box
As a user, I want to comment on a course so that I can share my feedback.	
Confirmation: <ol style="list-style-type: none">1. Success - User should be able to enter their comments.2. Failure – display message:<ol style="list-style-type: none">a. “can’t comment”	

3. Design Phase

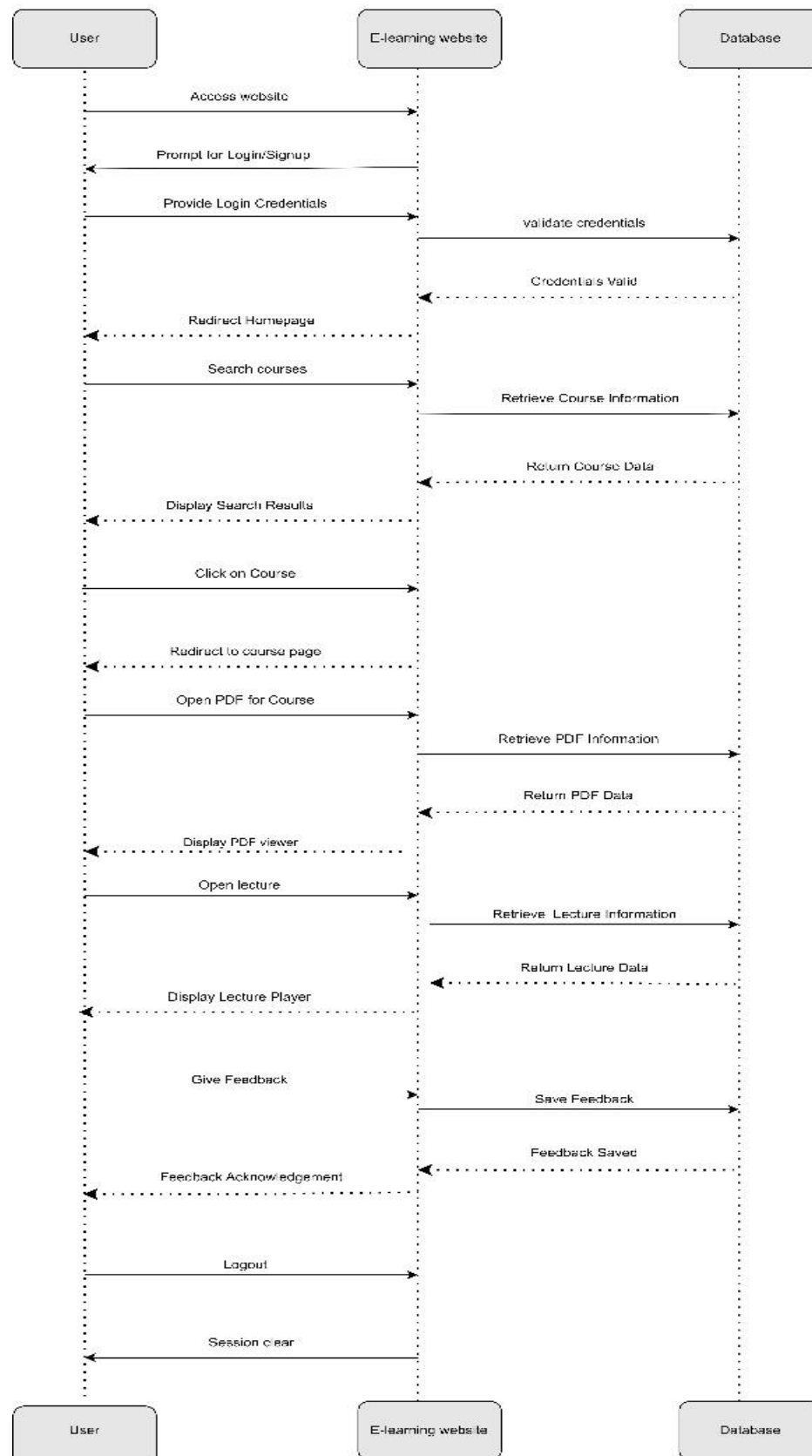
3.1. Class Diagram



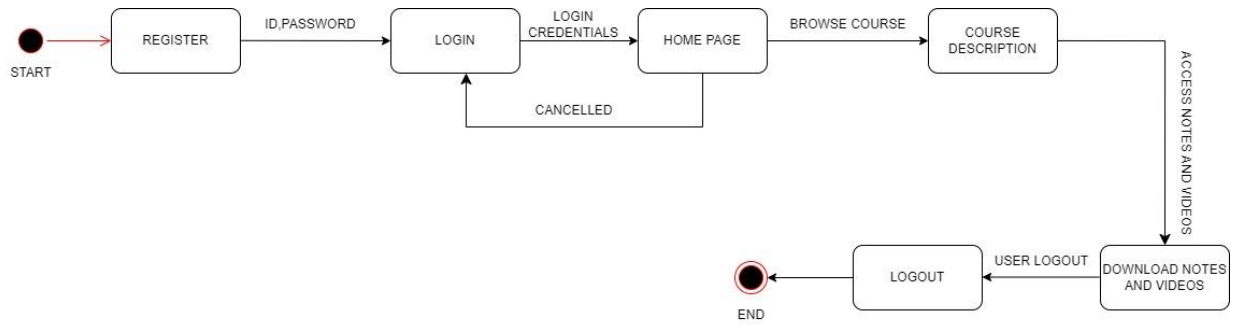
3.2. Sequence Diagram



3.3. Collaboration Diagram

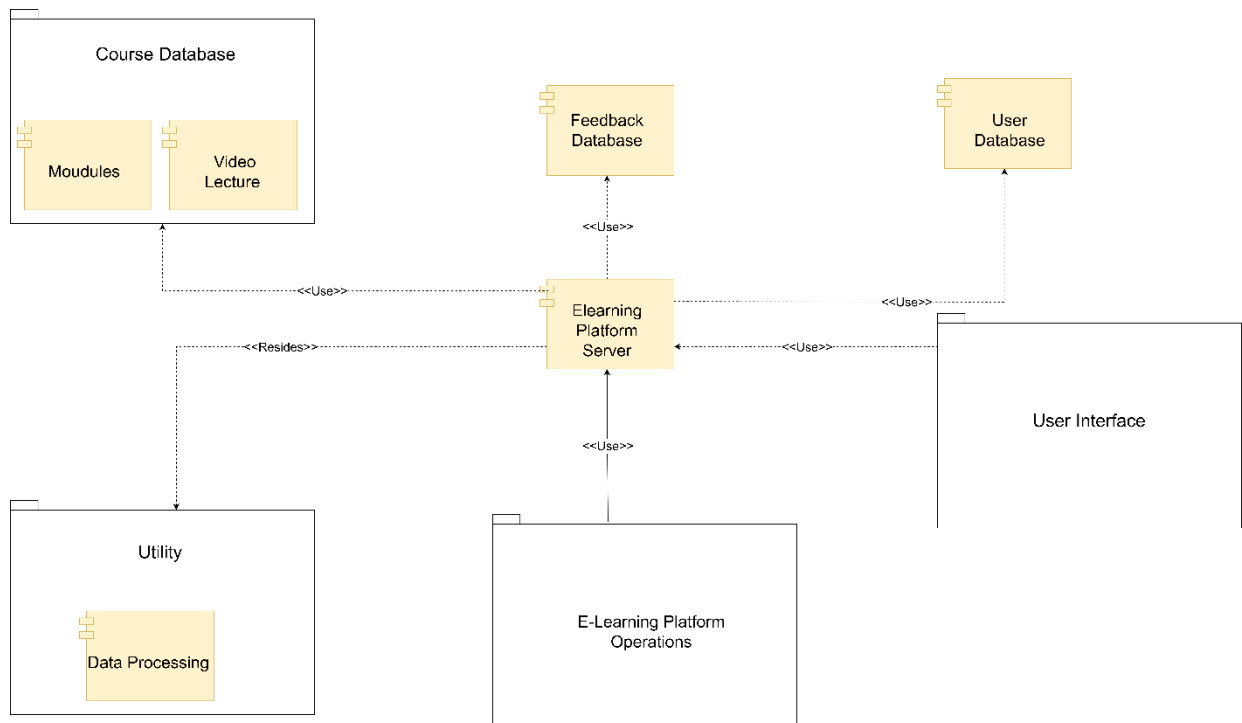


3.4. State Diagram

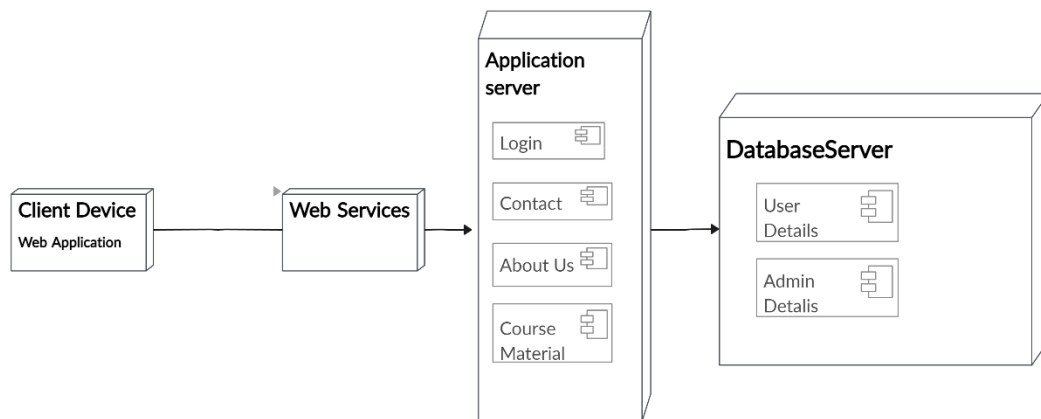


4. Implementation

4.1. Component Diagram



4.2. Deployment Diagram

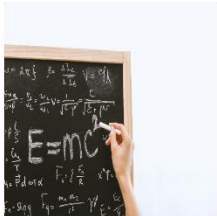


4.3. Screenshots

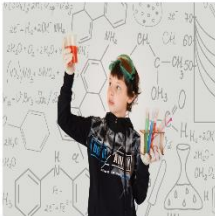
E-Learn ProHomeAboutContactLoginDisabled

SearchSearch


WELCOME TO
ELEARNPRO



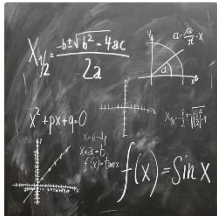
Applied Physics
1st Year All Branches
₹ 0 Notes Included
[Course Details](#)



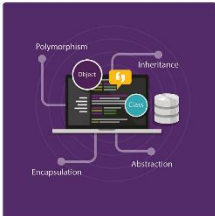
Applied Chemistry
1st Year All Branches
₹ 0 Notes Included
[Course Details](#)




Mathematics-2
1st Year All Branches
₹ 0 Notes Included
[Course Details](#)




Mathematics-1
1st Year All Branches
₹ 0 Notes Included
[Course Details](#)




OOPS
1st Year CS Branches Only
₹ 0 Notes Included
[Course details](#)



Mechanics
1st Year All Branches
₹ 0 Notes Included
[Course Details](#)



Seamless Learning for bright future



Products
Overview
Customers

Support
Contact Us
About Team

Legal
Privacy Policy
Cookie Setting

@2024 - Present, All right Reserved.



Course

Applied Physics for CSE 1st Year Students.

Engineering Physics 1 is semester 1 subject of computer engineering. Objectives of the subject Engineering Physics-I are as follows To understand basic physics concepts and founding principles of technology.

To develop scientific temperament for scientific observations, recording, and inference drawing essential for technology studies. Outcomes of the subject Engineering Physics-I are as follows Learners will be able to... Illustrate the fundamentals of quantum mechanics and its application, Explain peculiar properties of crystal structure and apply them in crystallography using X-ray diffraction techniques. Comprehend the concepts of semiconductor physics and applications of semiconductors in electronic devices. Employ the concept of interference in thin films in measurements. Discuss the properties of Superconductors and Supercapacitors to apply them in novel applications. Compare the properties of engineering materials for their current and futuristic frontier applications.

What will you learn

- Understand founding principles of technology.
- Basic physics concept made easier!
- Helps in building the foundation of your technical quotient.

Description:

This course starts with quantum physics thereby, knowing the fundamentals of quantum mechanics and its application. We will walk through the concepts such as, properties of crystal structure. Learn semiconductor physics and applications. Exciting concepts like Superconductors and supercapacitors will be introduced.

Modules covered:

1. Oscillation and Waves
2. Electromagnetic waves
3. Optics
4. Quantum Mechanics

Applied Physics

Language Hindi

Skill Level Beginner

[PDF](#) [Video Lecture](#)

[companynameandlogo](#)

Seamless Learning for bright future



Products

Overview
Customers

Support

Contact Us
About Team

Legal

Privacy Policy
Cookie Setting

@2024 - Present. All right Reserved.

Login

[Forgot Password?](#)

Login

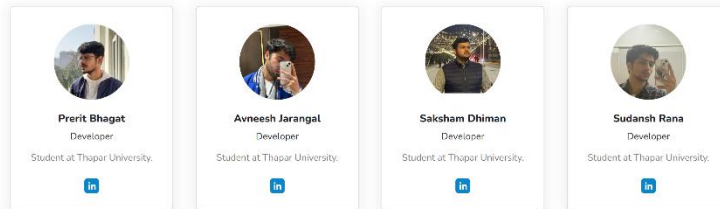
[Not a member? Signup](#)

About Us


At E-Learn Pro, we believe in accessible, innovative learning experiences that adapt to your schedule and learning style. Join us in embracing the future of education and unlock your potential with our immersive online courses.

Welcome to E-Learn Pro, where learning knows no boundaries. Our mission is to empower individuals worldwide through accessible and innovative education..


Our Team




Details



xxxxxx



+91 81988-XXXX



XXX@gmail.com

Contact Us

Message

Send

5. Testing

5.1. Test Plan

5.1.1 Test Objectives

The objective of the test is to verify the functionality of the E-learning website according to the specification. The test will execute and verify the authentication process, identify, fix and retest all high and medium severity defects considering all constraints.

Key Points

- Production like data required will be available in the System prior to start of Functional Testing
- Exploratory Testing would be carried out once the build is ready for testing
- Performance testing is not considered for this estimation.
- All the defects would come along with a snapshot JPEG format

5.1.2 Test Principles

- Testing processes will be well defined, yet flexible, with the ability to change as needed.
- Testing will be a repeatable, quantifiable, and measurable activity.
- Testing will be divided into distinct phases, each with clearly defined objectives and goals.

5.1.3 Data Approach

- In functional testing, A Sample example of a admin and user will be used to test the functionality.

5.1.4 Scope and Levels of Testing

PURPOSE: the purpose of this test is to make sure critical defects are removed before the next levels of testing can start.

SCOPE: First level navigation

TESTERS: Software Developers.

METHOD: his exploratory testing is carried out in the application without any test scripts and documentation by only using the test cases.

5.2. Test Cases

5.2.1 Test strategies

To deliver bug free software, a tester should cover maximum possible combinations of conditions. But it is not possible to completely exhaust all possible conditions. It is not only time consuming but also, it is a waste of resources. To test the system functionality It is not possible to test each and every value. The applicable possibilities are too many to test. We can only pick some of the conditions and assume the system works the same for the rest of the conditions. In this project, black box testing is used to test and validate various scenarios.

5.2.1.1 Equivalence Class Partitioning:

Equivalence partitioning is a Test Case Design Technique to divide the input data of software into different equivalence data classes. Test cases are designed for equivalence data class. The equivalence partitions are frequently derived from the requirements specification for input data that influence the processing of the test object. A use of this method reduces the time necessary for testing software using less and effective test cases.

5.2.1.2 Boundary value analysis:

It is a test case design technique to test boundary value between partitions (both valid boundary partition and invalid boundary partition). A boundary value is an input or output value on the border of an equivalence partition, including minimum and maximum values at inside and outside boundaries. Normally Boundary value analysis is part of stress and negative testing.

5.2.2 Testing cases

Test Cases performed while developing the 'ELearning Platform' website:

Test Case 1 : On entering the incorrect details(username, password , E-mail) while logging into the system, an error message is displayed saying “Unable to connect to E-Learn Pro”

Test Case No. : 1	Test Case Name : Unsuccessful Login Attempt
System: E-Learning Platform	Subsystem : Login
Designed By: Elearn Pro	Design Date : 01/05/2024
Executed By: Prerit	Execution Date : 01/05/2024
Short Description : Testing for user login	
Pre-Condition <ul style="list-style-type: none"> • Admin must have their username and password • User must enter correct details 	

Step	Action	Expected Response	Pass/Fail	Comments
1.	Enter Details			
2.	Press “Login” Button	Software should show error message of incorrect credentials: “Error invalid details. Please Try again .”	Pass	

Post-Condition: <ul style="list-style-type: none"> • An error message “Error invalid details. Please Try again” is displayed asking the user to re-enter the details.
--

Therefore, output was as expected. Test Case successful.

Test Case 2 : To verify the Course Available feature of the website i.e it displays all the Courses available.

Test Case No. : 2	Test Case Name : Courses
System: E-Learning Platform	Subsystem : course info
Designed By: Elearn Pro	Design Date : 01/05/2024
Executed By: Avneesh	Execution Date : 01/05/2024
Short Description : Display available courses	
Pre-Condition <ul style="list-style-type: none"> User or Admin should be logged in. 	

step	Action	Expected system response	Pass/Fail	Comments
1.	Go to search option to find whether course is available or not	Software should show error message If course not available "Course not available"	pass	
2.	Scroll down to view the list of all courses.	User is able to view and navigate through courses using the scroll bar.	pass	

Post-Condition: <ul style="list-style-type: none"> On finding the courses user can choose the course material
--

Therefore, output was as expected. Test case Successful.

Test Case 3 : To verify the Course Details feature of the website i.e it displays all the Course details and study material available

Test Case No. : 3	Test Case Name : course material
System: E-Learning Platform	Subsystem : course Data
Designed By: Elearn Pro	Design Date : 01/05/2024
Executed By :Prerit	Execution Date : 01/05/2024
Short Description : Display course details and study material	
Pre-Condition <ul style="list-style-type: none"> User or Admin should be logged in. 	

step	Action	Expected system response	Pass/Fail	Comments
1.	Click on 'PDF'	Software should redirect to new webpage where course material is available in document(pdf ,word etc) form	pass	
2.	Click on 'Video Lecture'	Software should redirect to new webpage where video lecture related to course is available	pass	

Post-Condition: <ul style="list-style-type: none"> User can Download/View the course document. User can watch video lectures.

Therefore, output was as expected. Test case Successful.

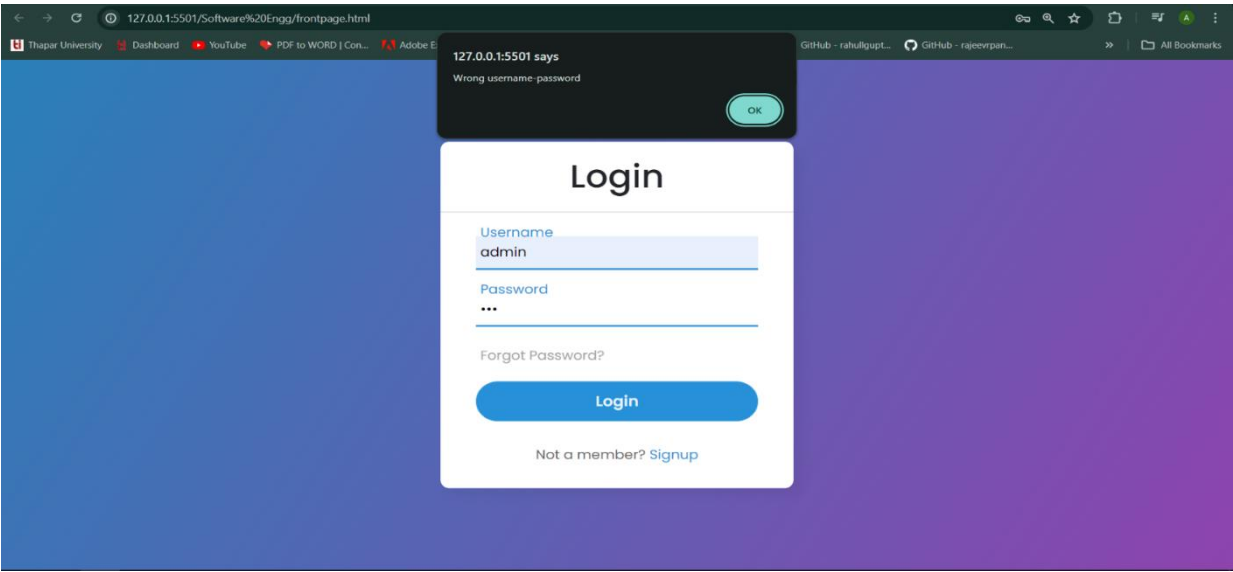
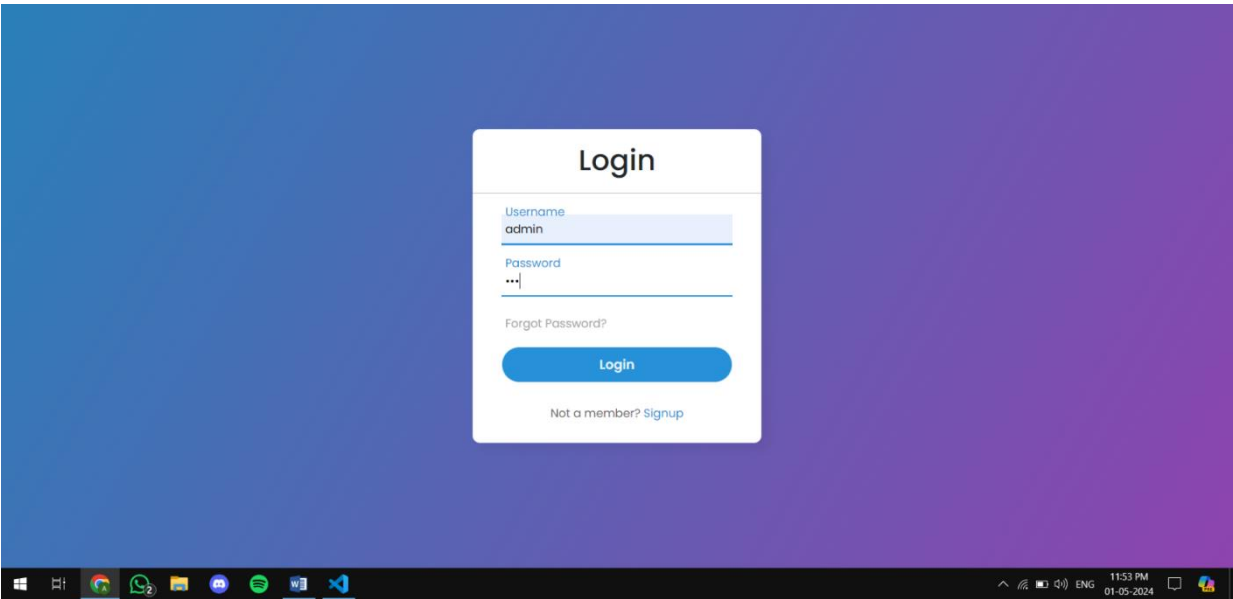
5.3. Testing Reports

5.3.1 Report Test Case 1

Test Suite ID	TS001
Test Case ID	TC001
Test Case Summary	To verify that the website communicates with the internet , And fetches the login data from database.
Related Requirement	A valid username and password for authentication.
Prerequisites	1. User should have a stable network. 2. User Has a username and password.
Test Procedure	1. Press Login button to Login into the site. 2. Wait for the details to checked and validate by web.
Test Data	1.Username:"admin",password:"456"
Expected Result	1. If credentials are correct then we will be allowed inside the app. 2. Else a login error message will be displayed.
Actual Result	1. Message is popped showing "Wrong username or password".
Status	Pass
Remarks	This works as expected, so site is reliable.
Date of Creation	01/05/2024
Executed By	Avneesh Jarangal
Date of Execution	01/05/2024
Test Environment	OS: Chrome Browser(Windows) Device: Acer Aspire 5

Expected Output

Successful Login



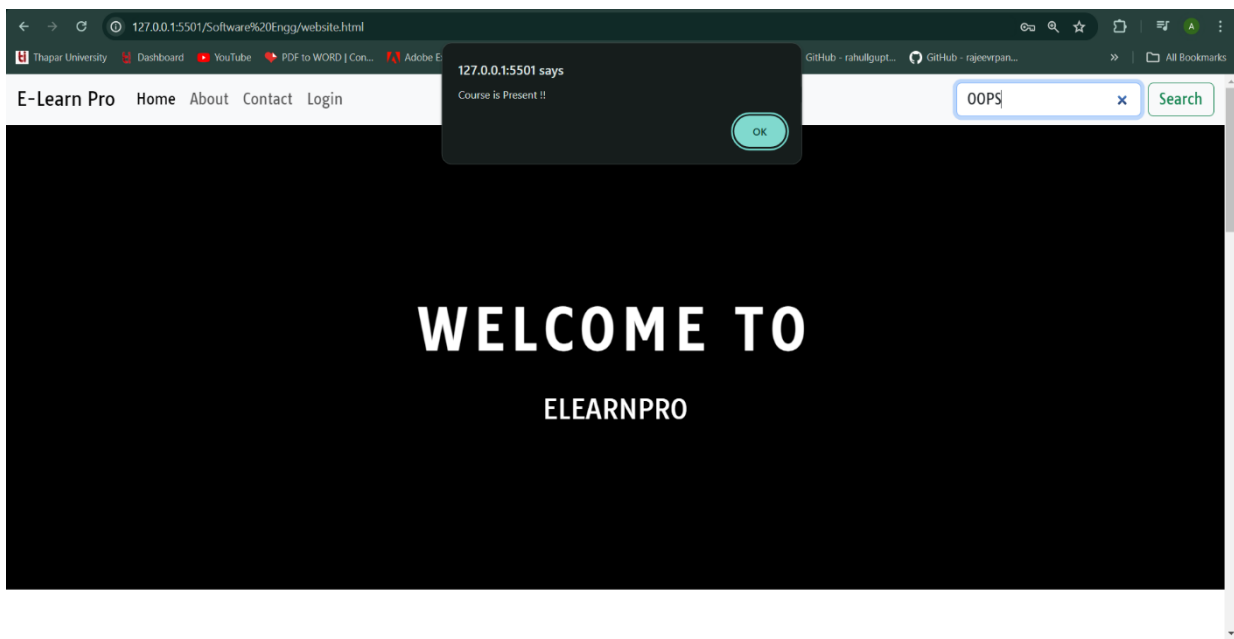
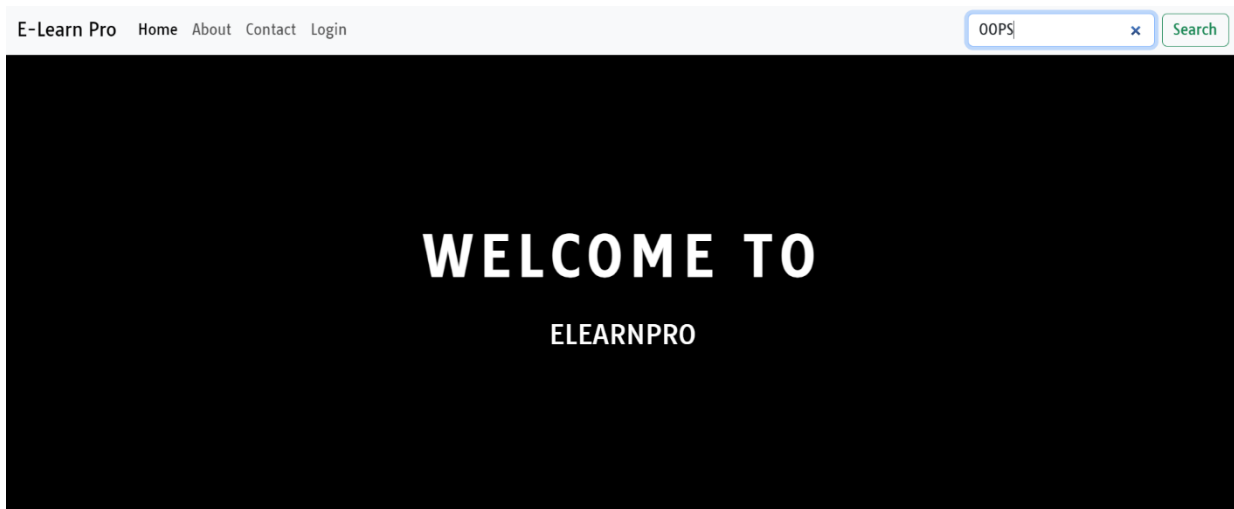
5.3 Testing Reports

5.3.2 Report Test Case 2

Test Suite ID	TS002
Test Case ID	TC002
Test Case Summary	To verify the Course Available feature of the website i.e it displays all the Courses available.
Related Requirement	Authenticated by login page.
Prerequisites	1. User should successfully logged in.
Test Procedure	1. Enter the course in search box to check its availability.
Test Data	Enter "OOPS" in search box.
Expected Result	1. Message will popup informing whether that course is present or not.
Actual Result	1. Message is popped showing that is OOPS is present.
Status	Pass
Remarks	Search Option is working as expected.
Date of Creation	01/05/2024
Executed By	Prerit Bhagat
Date of Execution	01/05/2024
Test Environment	OS: Chrome Browser(Windows) Device: Acer Aspire 5

Expected Output

Searched Successful



5.3.3 Report Test Case 3

Test Suite Id	TS003
Test case Id	TC003
Test Case Summary	To verify the Course Details feature
Related requirements	Nil
Prerequisites	1. None
Test Procedure	1. Upon opening the webpage click on Following links a. 'PDF' b. "Video Lectures" 2. Download/View the course material
Test Data	Nil
Expected Result	1. Redirect to NewPage to download/view documents if click on 'PDF' 2. Redirect to new webpage to watch video lectures if click on 'video lectures'
Actual Result	Redirected Successfully
Status	Pass
Remarks	
Date of creation	01/05/2024
Executed By	Avneesh Jarangal
Date of Execution	01/05/2024
Test Environment	<ul style="list-style-type: none">• OS: Window• Device: Laptop

Expected Output
Searched Successful

Applied Chemistry for CSE 1st Year Students.

Applied Chemistry 2 is a semester 2 subject in the first year of engineering. Objectives for the subject Applied Chemistry– II to provide the necessary background in applied chemistry relevant to chemical industries.

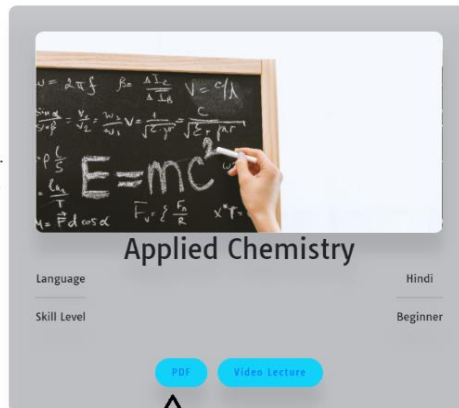
To provide exposure in conducting experiments and interpret the results in a professional format. Outcomes for the subject Applied Chemistry– II Learner will be able to identify types of corrosion and factors affecting it related to problems affecting all industries. Identify different types of corrosion control methods to study corrosion control in various industries. Apply the knowledge of different types of fuels, including their production and refining methods and combustion mechanisms. Illustrate the composition and properties of different types of alloys and the process of powder metallurgy. Illustrate principles of green chemistry. Illustrate properties and applications of different types of composite materials.

References Books for the subject Applied Chemistry -II are as follows Engineering Chemistry – Jain & Jain (DhanpatRai). Engineering Chemistry – Dara & Dara (S Chand). Engineering Chemistry – Wiley India (ISBN – 9788126519880).

A Text Book of Engineering Chemistry – ShashiChawla (DhanpatRai). A Text Book of Green Chemistry – V.K. Ahluwalia (Springer).

Syllabus:

1. Electrochemistry
2. Phase Rule
3. Water Treatment and Analysis
4. Fuels
5. Chemistry of Polymers.
6. Atomic spectroscopy
7. Molecular spectroscopy



Applied Chemistry

Language: Hindi

Skill Level: Beginner

PDF Video Lecture



atomic structure chemistry 1st sem.pdf

Open with Google Docs

Share

Page 50

CHEMISTRY

Date :- 14/01/2022

Atomic Number :- The number of protons present in the nucleus is equal to the number of electrons in extra nuclear part of the atom is called atomic number of an element.

It is denoted by Z .

$\therefore Z = p = e$

where, P = total number of protons present in the nucleus.

~~##~~ e = total number of electron present in the atom.

Atomic Mass :- The sum of the protons