

Phase-3 Development Report

For

An Interactive e-learning Platform for Learners

Version 1.0

approved

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Revision History

Name	Date	Reason For Changes	Version
Nikitha Rao J	29/11/2022	Initial Copy	1

1. Introduction

The e-learning platform is mainly used for the process of obtaining education through the use of personal computers. It is also known as “distant learning”, where the knowledge from a person(instructor) is transferred to the others by the use of digital technology. The latest updates of the technology in the present world can be easily transferred and learned by the people around the world. The process of obtaining new information through the use of digital platforms is referred to as "e-learning." The term "e-learning" refers to any and all forms of education that involve the utilization of electronic media and the Internet. The information and communication technologies that are used to impart instruction are the types of media that are employed. This is true regardless of whether or not they are used for networked learning. This often entails educational experiences that are mediated by technology in official as well as informal contexts, despite the fact that both the hardware and the content are undergoing continuous improvement. The term "e-learning" refers to any form of education that may be completed via the utilization of a computer and the internet.

2. Deliverable - 1

In this deliverable, we finalized the project and planned some functionalities to add to the e-learning platform. First, we gave a brief introduction about our project, followed by a project proposal and the development tools that were used to develop the entire project, some points for the risk management, schedule and contribution table in which we clearly mentioned the role and the person's name. As it is the first step of our project, we changed some functionalities in the middle, added new requirements, and rejected some during the peer review session with our partner group.

3. Deliverable - 2

In this deliverable, we explained the overall structure of the system and the requirements specifications of the project, which include both functional and non-functional requirements and interfaces. We divided development work into three sections in this. According to that, we followed the steps to complete the project. In this deliverable, we clearly mentioned the complete operating environment and features. Each and every phase is explained clearly. Even though we made plans, due to a time conflict and some other reasons, we slightly changed the phase plans.

4. Deliverable - 3

In this deliverable, we implemented the phase 1 functionalities of our project in that we included the login page, registration page, and data modeling design. In our project, we designed a login page for both teachers and students. Registration is different because the details required to enroll and create a class require different information. This deliverable, we worked on some more pages according to the schedule. And we designed UML diagrams for our project according to the rubric; we delivered a class diagram, a sequence diagram, and a use case diagram, in which we included both error cases and normal cases. Test Cases are also included for this deliverable.

5. Deliverable - 4

In this deliverable, the implementation part for the students page is done. Initially we gave an introduction and scope of our project and the development phases are done. In phase-1 development we designed a homepage for the system which includes the login and registration for both students and tutors and forgot password feature. For this deliverable we also added a feature where users can add their profile information. In phase-2 development we provided user interface for profile pages and we implemented both student and teacher functionalities which includes assignments, classrooms, grading students, feedback feature. Additionally for this deliverable we have included an advanced security system feature that has a forget password feature. We used the database mongoDB and we established a connection between the frontend and backend for both the students and teachers which is used to access the core functionalities. Here we also provide the UML diagrams ER/Class diagram, Sequence diagram and user case model of the project. Both Student UML error cases and all the test cases are provided in this deliverable.

6. Deliverable - 5

In Deliverable 5 , we implemented the teacher pages. Here, we've added the functionalities of the teacher module. It includes, adding resources, posting assignments, creating classrooms, evaluating the students assignments and being able to view their submissions. Here, in phase 3 development we were successful in implementing the teacher module of our e-learning project.

The final implementation has been done and we are able to run our application successfully. In this deliverable, we've performed testing of the entire project and passed all the test cases which we've provided in the form of a tabular column. So, this concludes our e-Learning website where users can be easily able to access it and have a user friendly experience which includes some attractive and useful

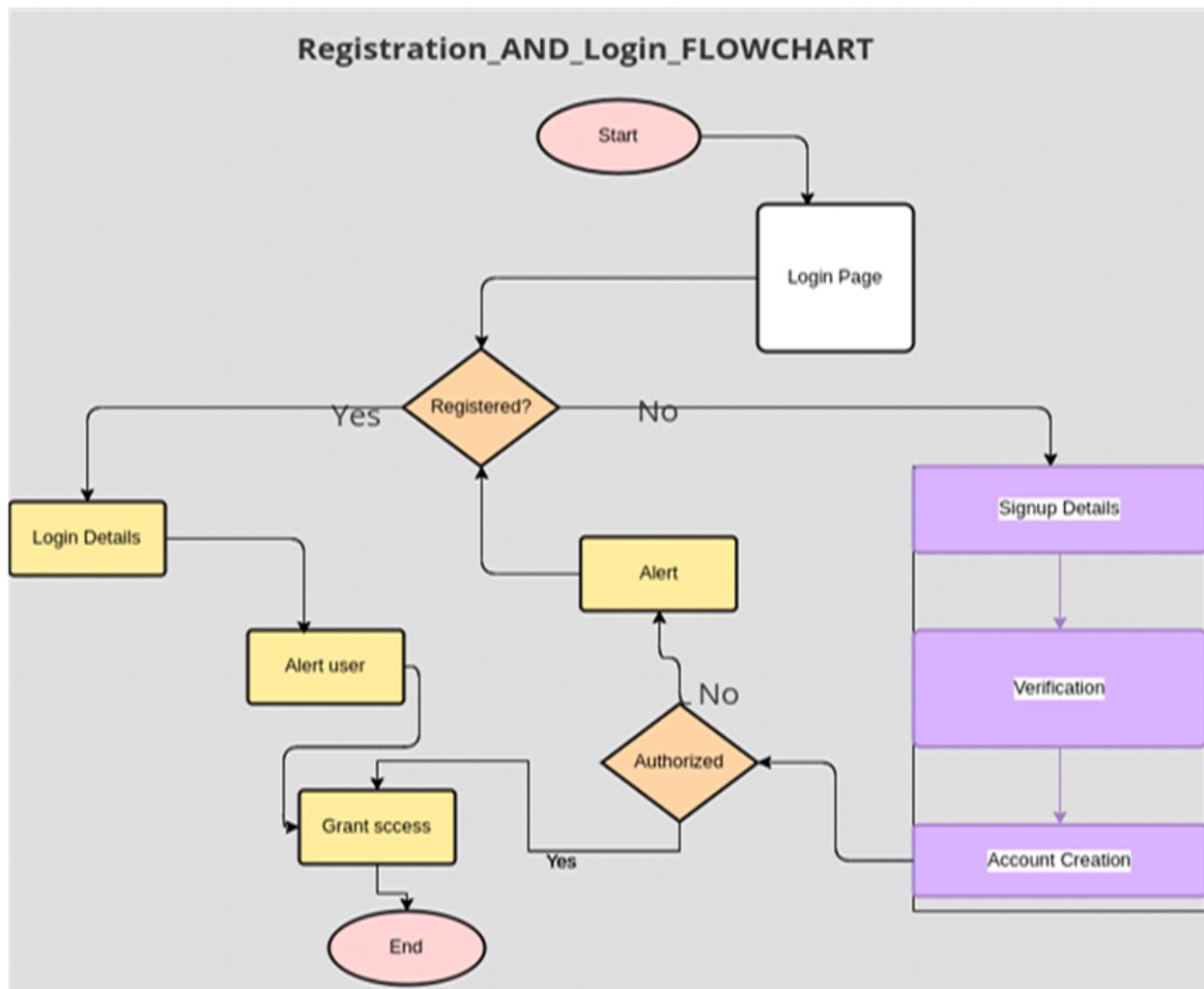
features such as assignment postings, resources adding, evaluating the assignments, quality content and discussion with the instructor.

7. Requirements of the entire project

7.1 Homepage of the system :

Home page includes the login and registration sections to both students and also to the tutor. Here the login is the same for the students as well as for the tutor whereas the registration of students differs from tutors. For the registration, two options will be displayed. One is for students and the other is for the tutor .

7.2 Account registration for both tutors and student :



To access this learning platform the tutor or the student should first register by following the required steps. Tutors will have to provide their First Name , Last Name and their respective Email ID , Username and Password for registration whereas, students must provide First Name, Last Name, Roll Number, Student ID, Username, password and their respective Email Address . Once they register, they can easily login to their created accounts by using their credentials.

7.3 Login for both tutors and student :

Their username and password should be entered to login there accounts

1. If a student log in to this , there will be a homepage where there will be several courses available so that they can easily enroll into any courses they wish.
2. If a tutor log in to this , there will be a homepage which displays their profile and a dashboard which consists of the courses they are tutoring .

7.4 Forgot Password :

This feature is included to impact the entire system security since it advances the security system to an up level where every user will be secured to access this platform.

7.5 Profile Information:

In this Feature the user can add their information such as First Name, Last Name , Email ID , username to their Profile information section.

7.6 Settling the Project :

First, we must install python 3.7 or a higher version. Then we need to install a package call pip inside it. Set the path and the environment variables and execute the following commands. `pip -r requirements.txt && python manage.py makemigrations && python manage.py migrate && python manage.py runserver`.

7.7 User Interface for the Profile pages :

1. Any user must use their student ID/ tutor ID and their password to log in to the system and can access it.
2. The student can enroll in their respective courses after the completion of registration process.
3. The tutor can view the respective courses they are teaching after the completion of registration.

7.8 phase 3 design and functionalities :

Here we have implemented student and tutor functionalities both to have access for the classrooms , assignments , grading , feedback feature which overall fulfill the both students and the tutor requirements.

7.9 Database data linking :

We created mongoDB, which was used to create a database then we linked to it . Then, we established a connection between the frontend and the backend to both the students and teachers which will be used to access the core functionalities such as classroom, modules, etc.

7.10 Challenges for Phase 3 implementation :

We actually created and also designed the functionalities for students and then implemented them but as the teachers module is interlinked with teachers, it was a challenge for us which made it very difficult for the creation of student classes. So, we created dummy files in the database and used it dynamically for student modules.

7.11 Functional Requirements:

- A homepage that not only introduces new users to the site but also guides them to further sections.
- All data tables were implemented\Account registration and Login for both Teacher and Student.
- Students able to join a classroom, A course etc/.
- A Student is able to access both his own profile as well as the dashboard for the class he is now attending.
- A student is able to download assignments, delete assignments, update assignments, and modify assignments.
- An instructor has the ability to examine the profiles of any and all students who have enrolled in his Class.
- Teacher can be able to build a classroom, A course etc/.
- A teacher is able to access both his own profile as well as the dashboard for the class he is now coaching.
- A teacher is able to add assignments, delete assignments, update assignments, and modify assignments.

7.12 Nonfunctional Requirements:

- It is possible to load pages rapidly and without difficulty in real time.
- An intuitive and pleasurable user interface and user experience (UI/UX) that streamlines the processes that the customer goes through when making use of the product.
- When stored on systems, information that pertains to students as well as faculty members is required to have complete and total confidentiality at all times.
- System software for mobile devices as well as that for desktop computers and any other type of operating system should be compatible.
- At Your Complete Disposal At All Times It is expected that the system will continue to function normally 24 hours a day, seven days a week, regardless of whether or not maintenance is being performed.
- There will be content that can be interacted with.

7.13 User Requirements:

- A student should be able to sign up or sing in (for his or her account) using this feature.
- It should make it possible for the instructor to submit announcements and assignments.
- It should make it possible for students to hand in their assignments.
- A professor should be able to submit online Random Assessment Tests using this functionality. In the event that the questions were multiple choice, it should have scored the papers and saved the scores for each individual student.
- It ought to make it possible for lecturers to publish stuff.
- Students should be able to share their thoughts on the website.
- It should make it possible for a lecturer to submit answers to difficult CAT or RAT problems.

7.14 System Requirements :

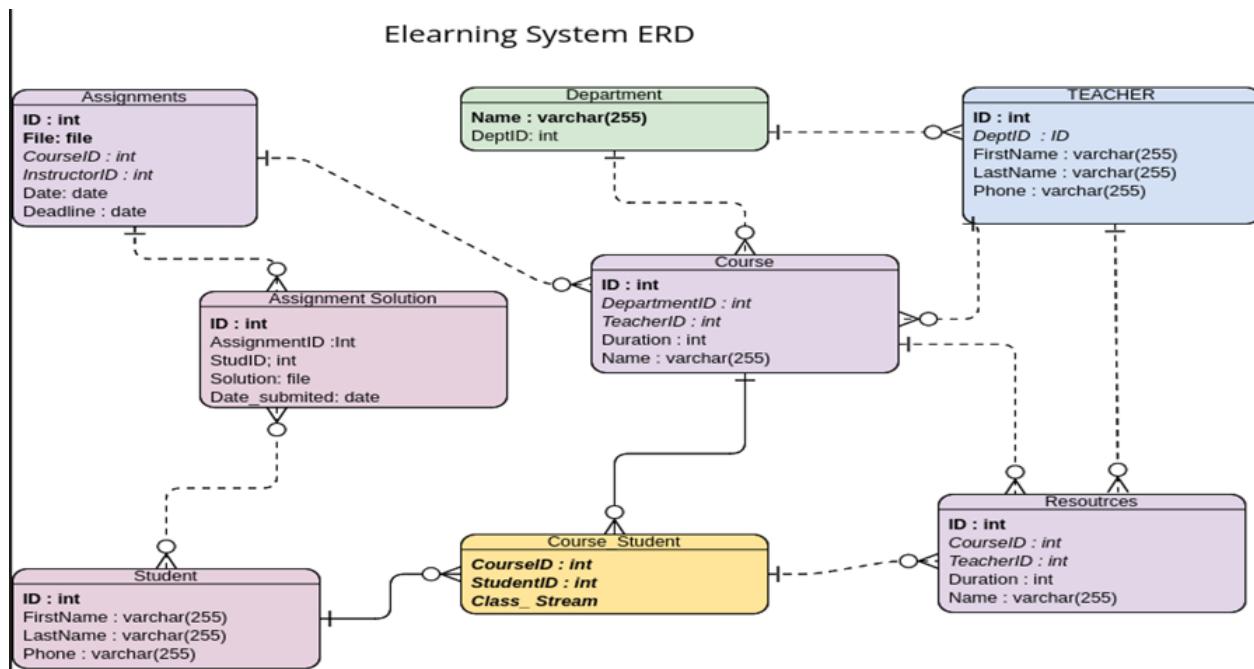
- At Least Contains a web browser Any contemporary web browser, such as Google Chrome or Mozilla Firefox, for example (2020 versions & later).
- Operating System: Operating Systems: Windows, Ubuntu, MacOS, and Linux OS
- Internet connection capable of high speeds.

8. UML Design

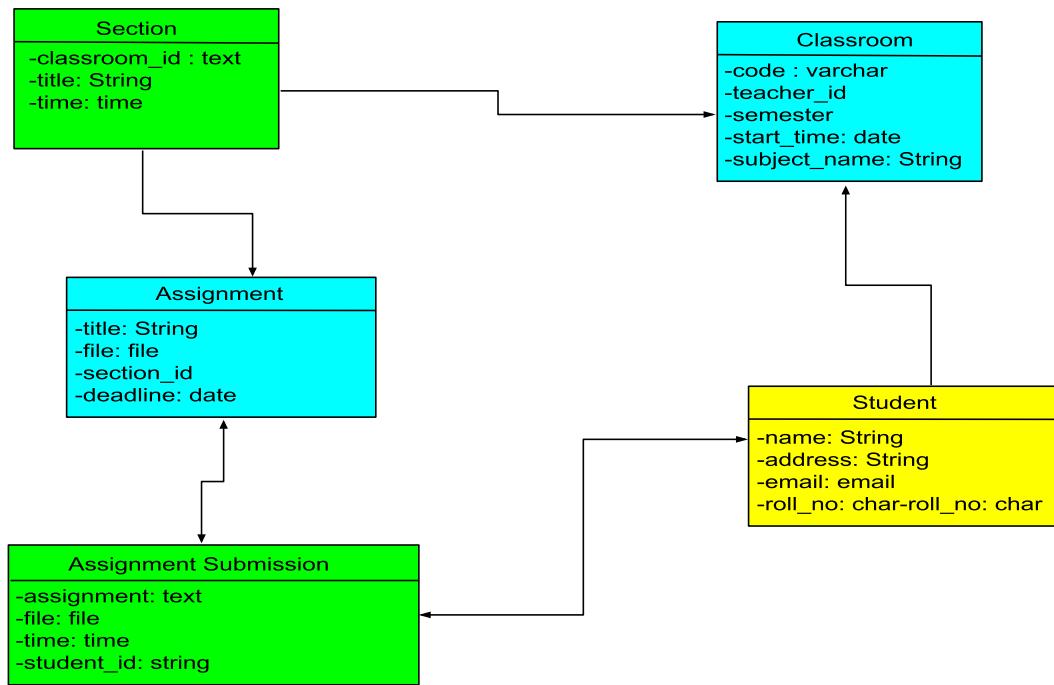
8.1 ER/Class Diagram

There is consensus among industry experts that the ER model is the best example of a conceptual data model at the enterprise level. The concept that underpins this paradigm, as well as its many different iterations, is utilized by a broad range of database design tools in order to simplify the process of developing cutting-edge database applications. The ER (Entity Relationship) Diagram that has been presented here illustrates the idea of an E-Learning Management System Entity. Entity-relationship diagrams can be used to display the interconnections between the various parts of an E-Learning management system, such as students, fees, courses, and training. One way to visualize the database tables that make up an E-Learning management system is in the form of an entity-relationship diagram.

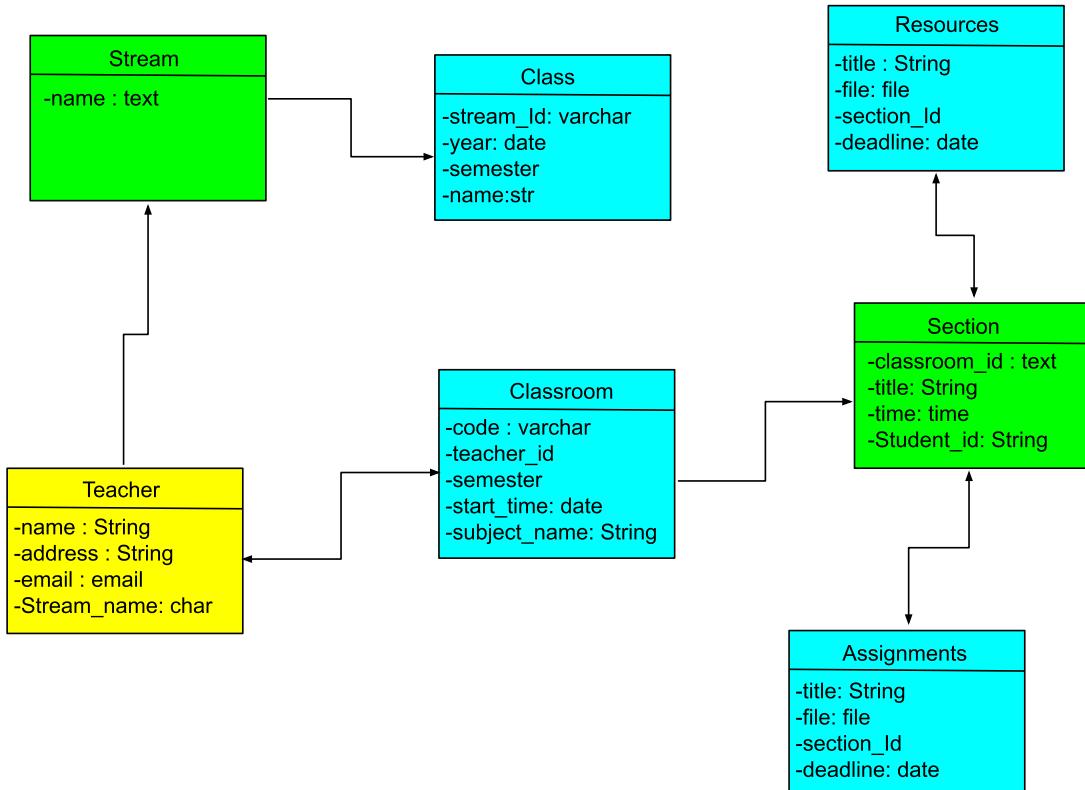
E-learning System ERD



Student Class Diagrams



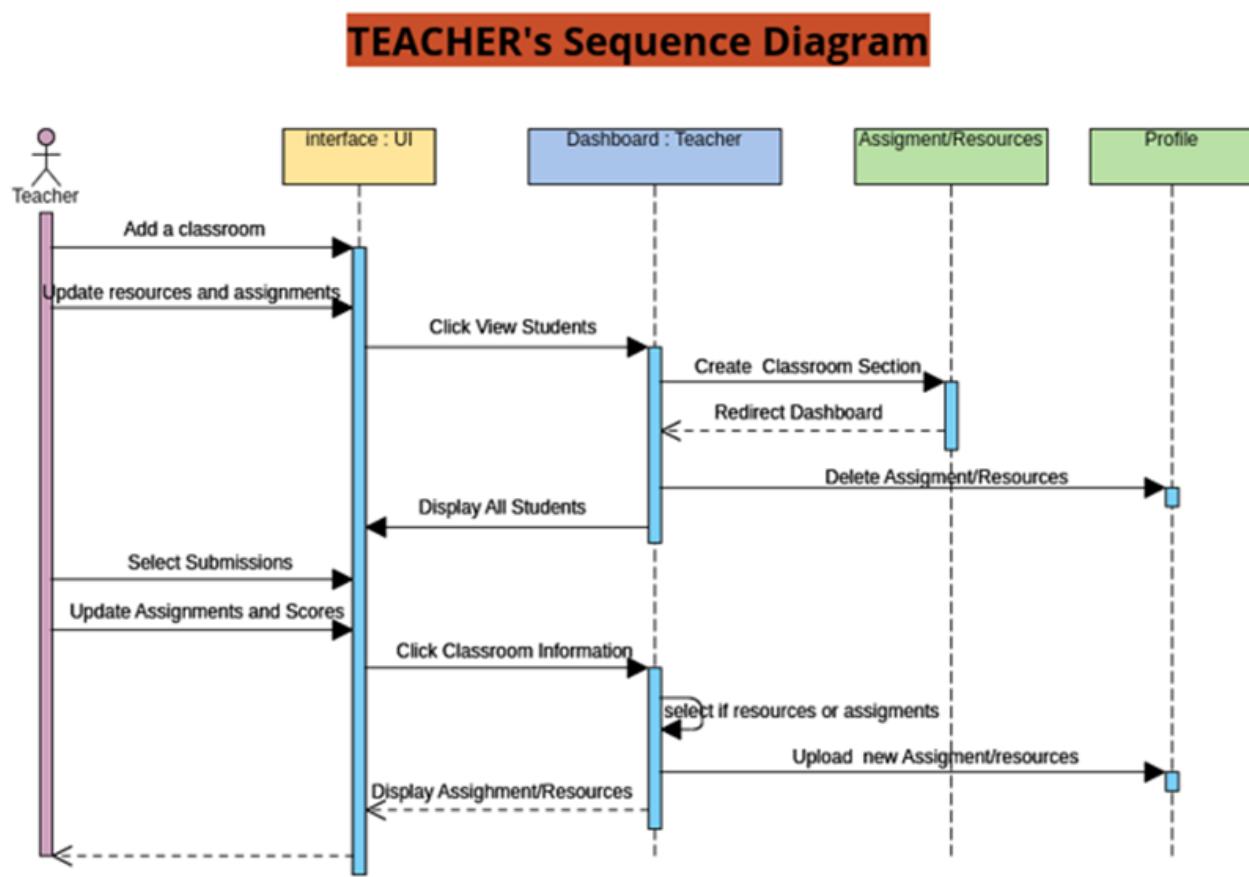
Teacher class diagram



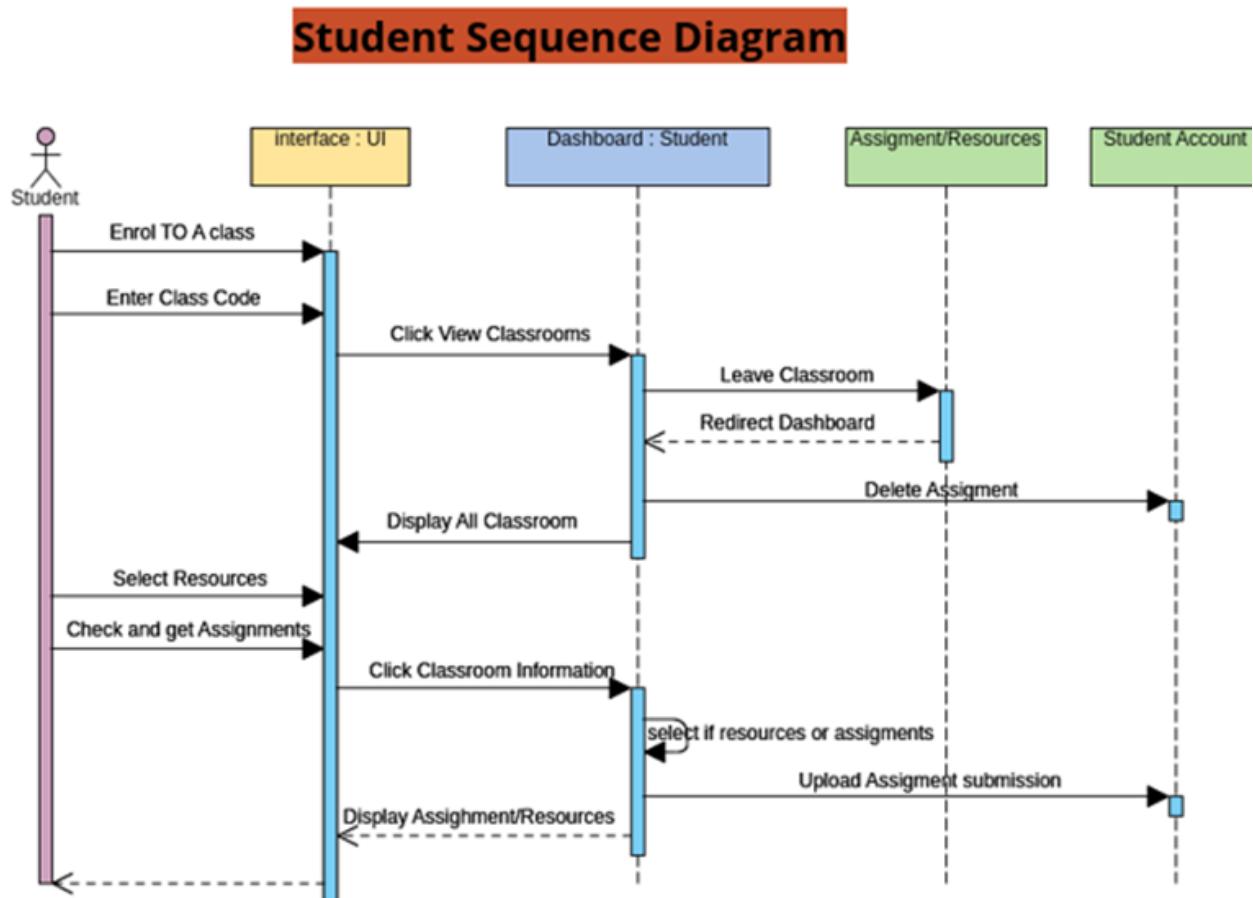
8.2 Sequence Diagram

This is an example of a UML sequence diagram for an e-learning management system. It demonstrates how the objects of Student interact with the system. The diagram may be seen by both students and instructors. The following is a rundown of the chronological order on how the student action from enrolling to a class, selecting resources and checking assignments:

Sequence Diagram for Teacher

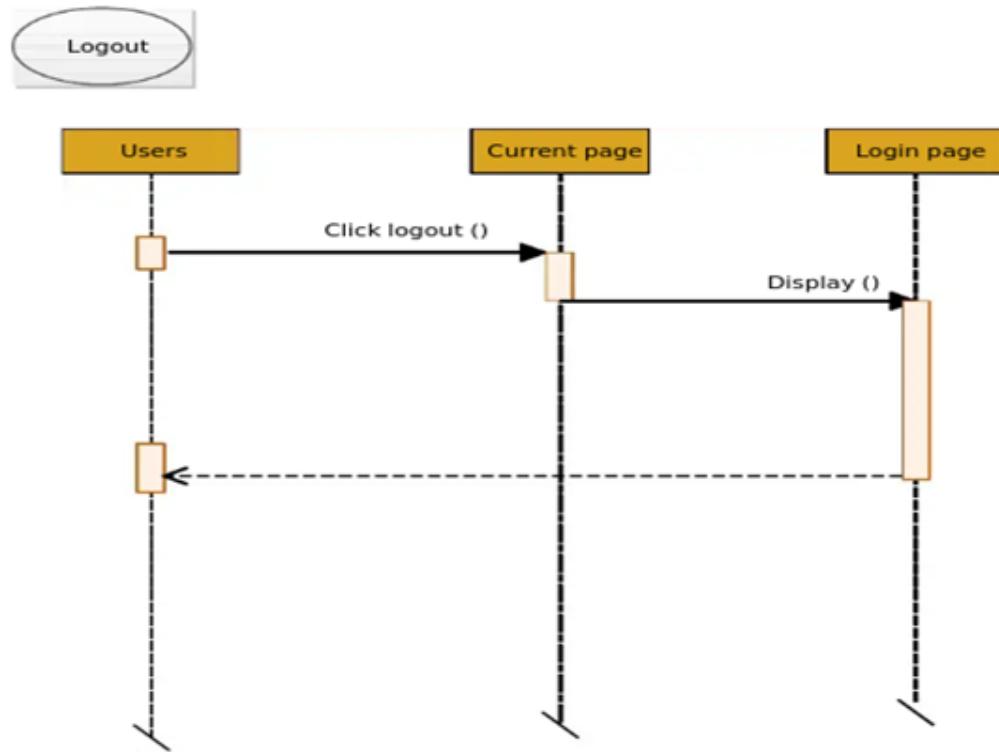


Sequence Diagram for Student

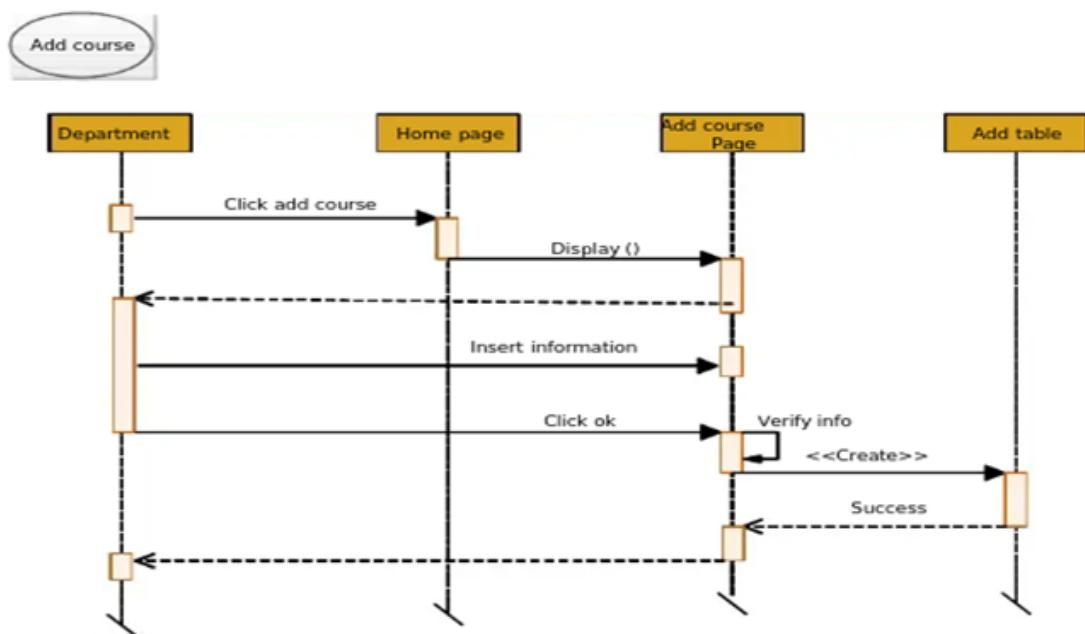


It demonstrates how the objects of AccountLogout, AddCourse, Login, ResourcesAdd, ResourcesDownload, and Signup interact with one another. The diagram may be seen by both students and instructors. The following is a rundown of the chronological order of each action:

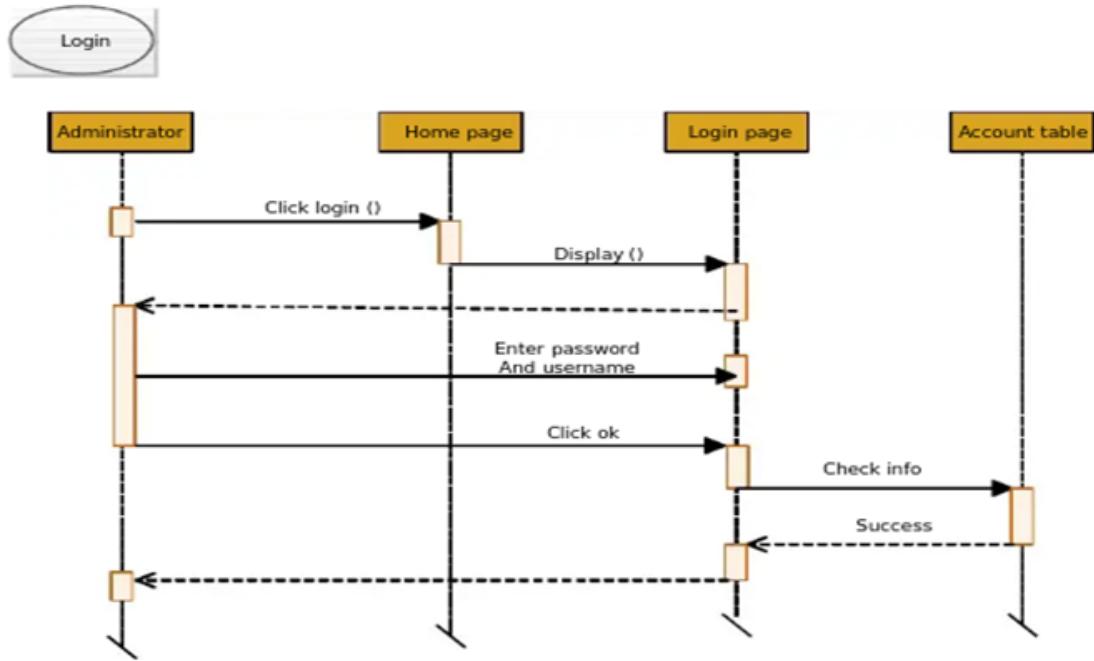
AccountLogout



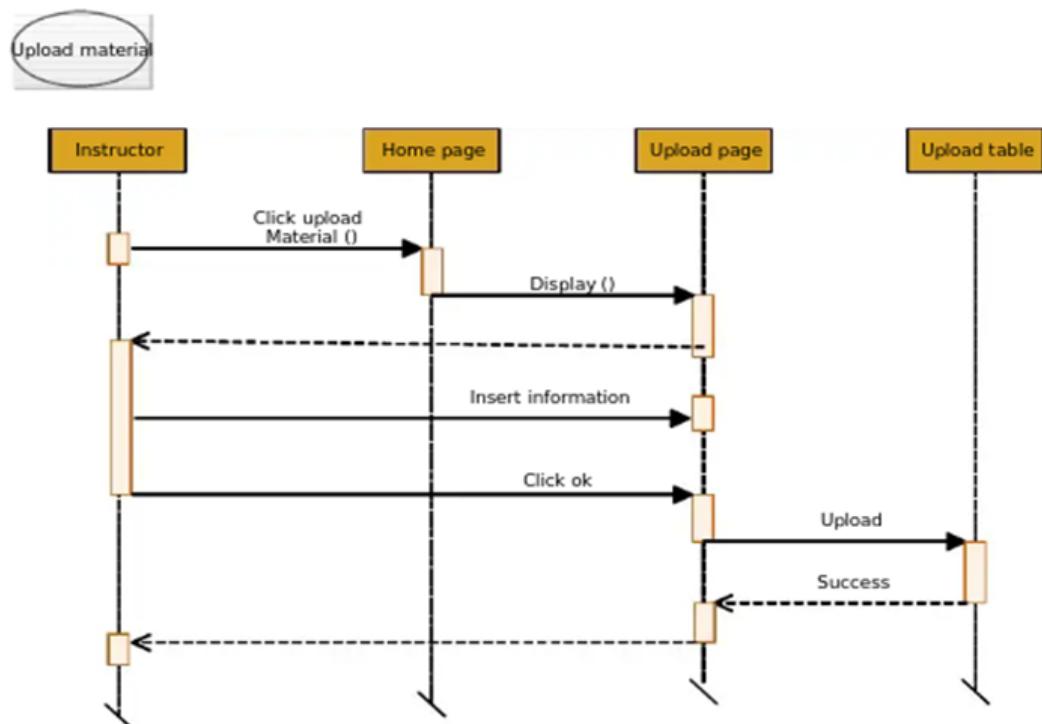
Add Course



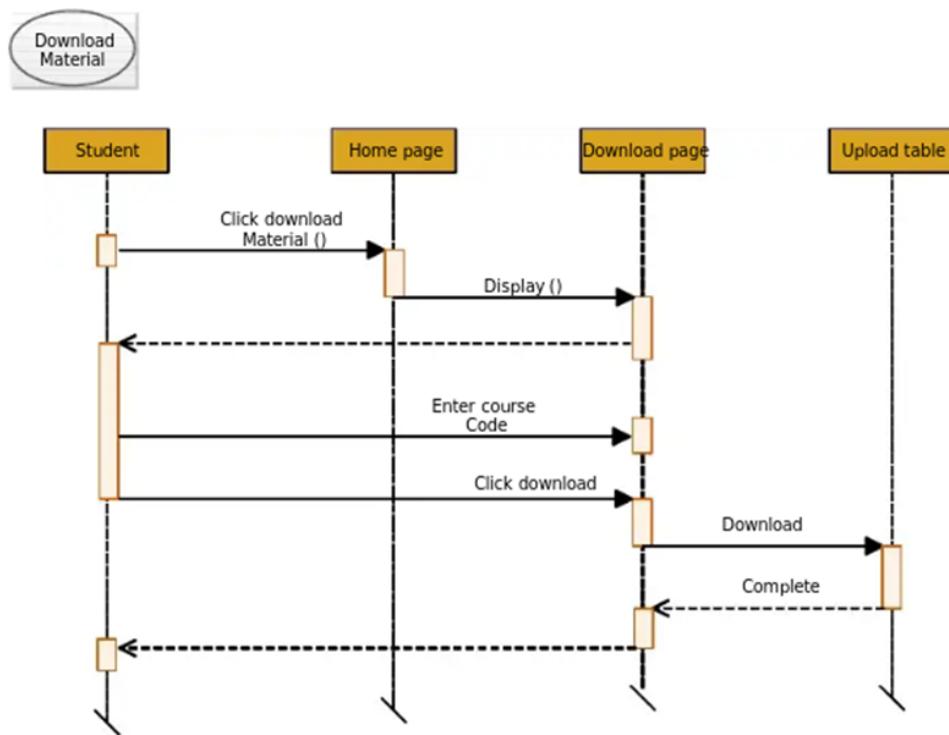
Login



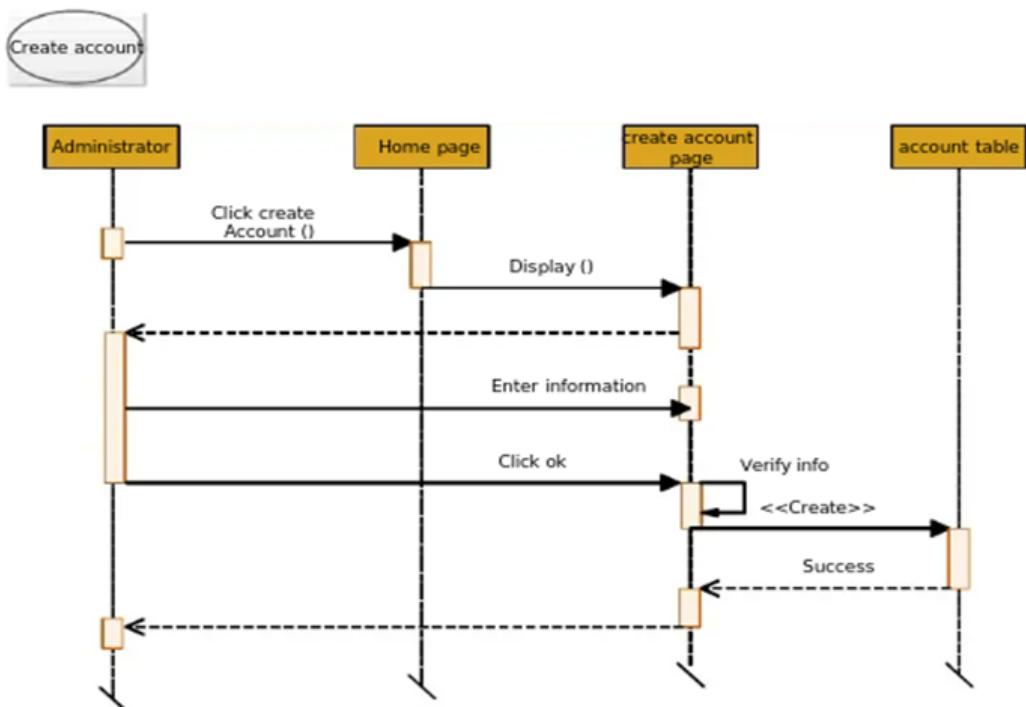
ResourcesAdd



ResourcesDownload



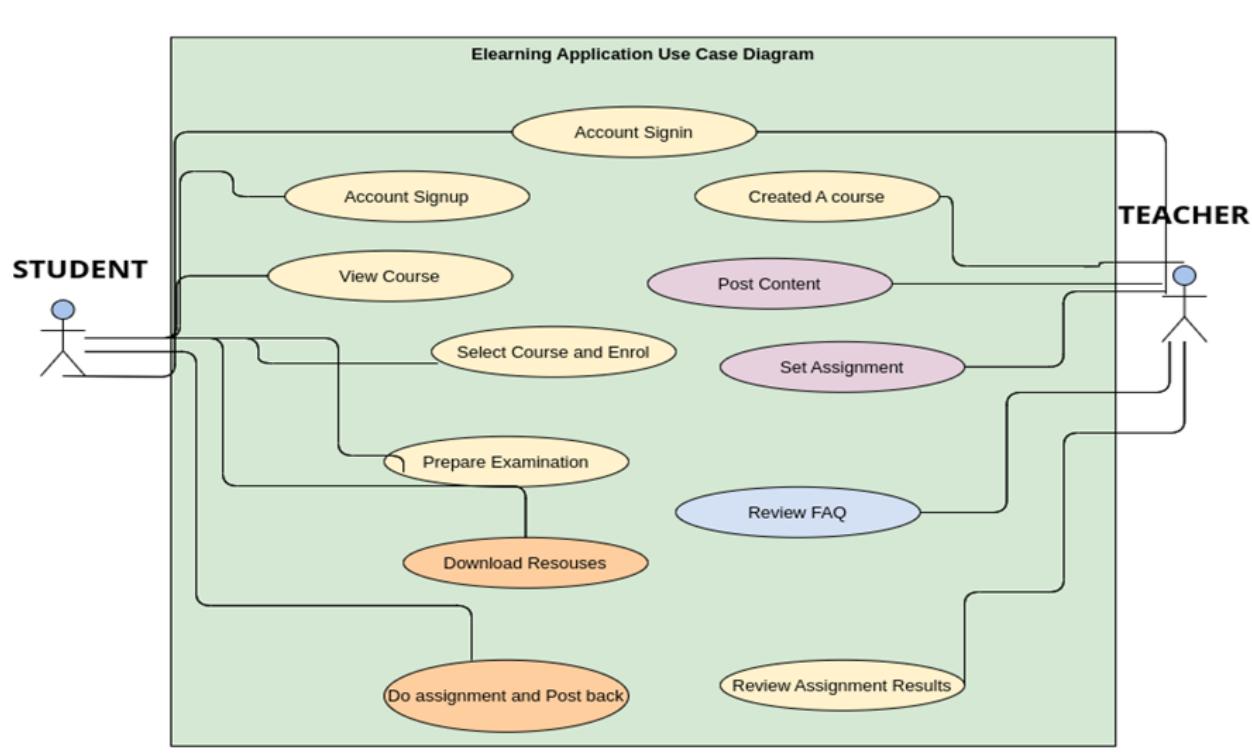
SignUp



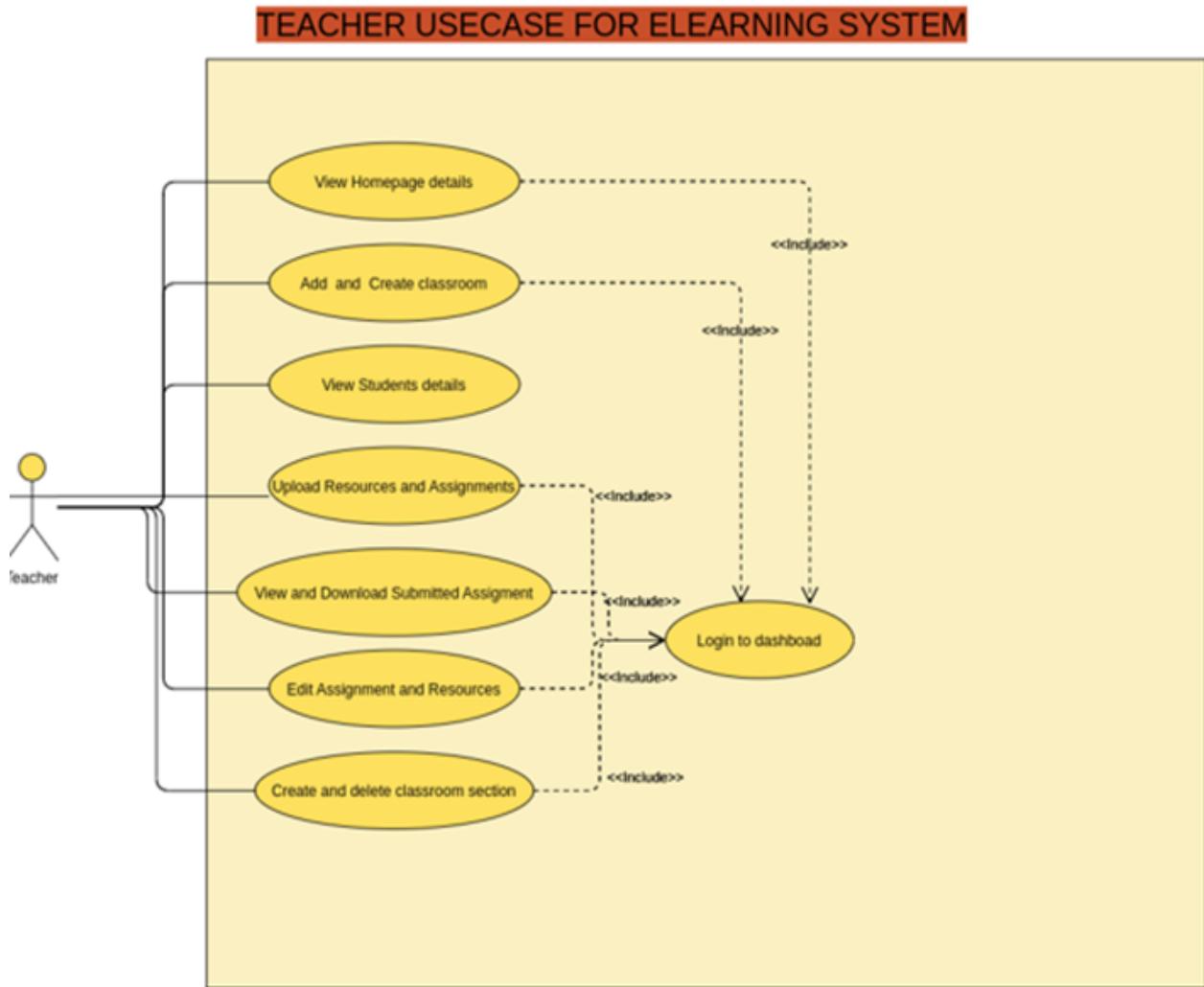
8.3 Use case model of the project

An e-learning management system's use case diagrams are graphical representations of the relationships between the many modules that make up the system. Using a process that is quite similar to the one represented up above, the system demands of an e-learning content management system may be uncovered, clarified, and structured. This Use Case Diagram illustrates how the student interact inside an e-learning management system. Students are executing the many different use cases that make up an e-learning platform. Some of these use cases include: viewing homepage details, viewing classroom codes, enrolling to a class, uploading assignment, viewing, downloading resources and assignment, deleting and modifying assignment, managing the subject, leaving the classroom and managing the full e-learning management system operations.

E-learning system Use Case Diagram

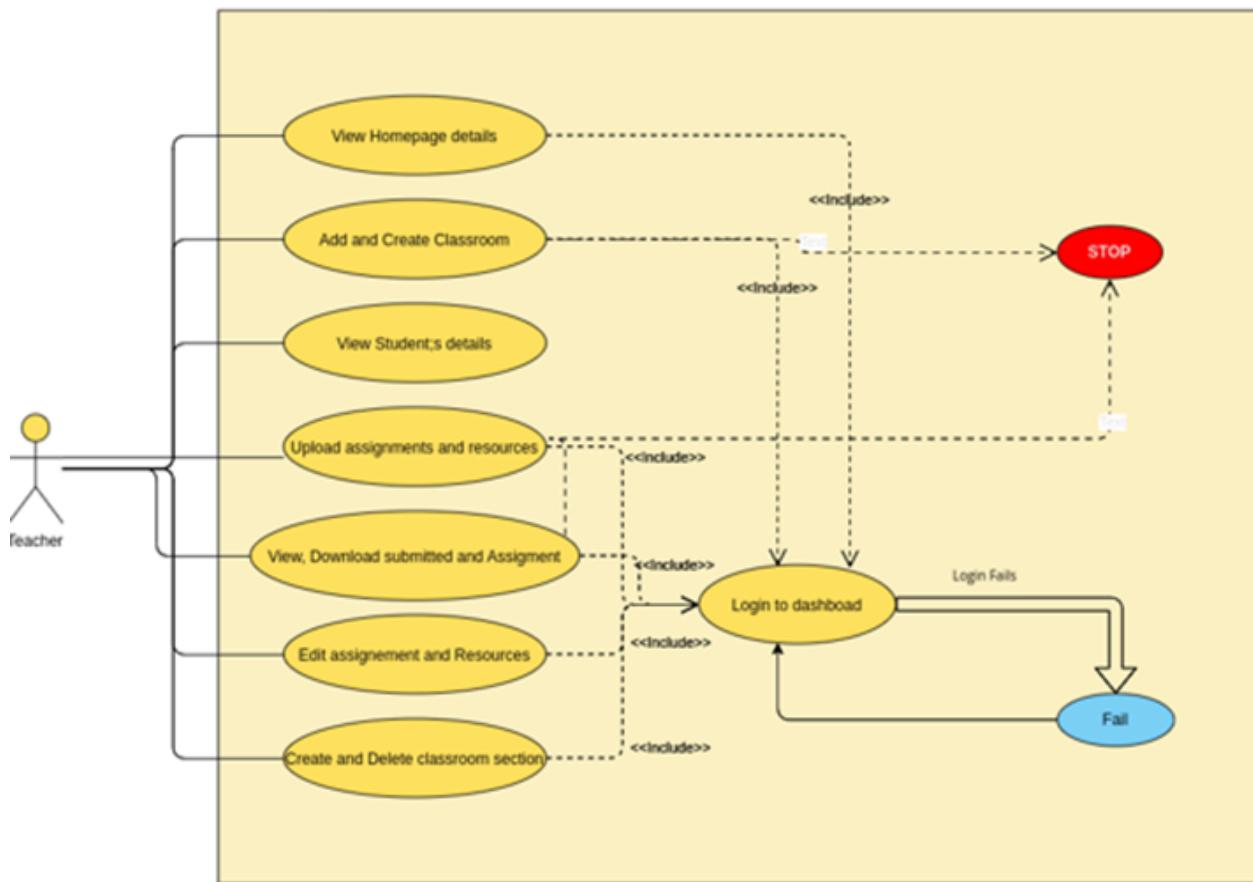


Use case model for teacher

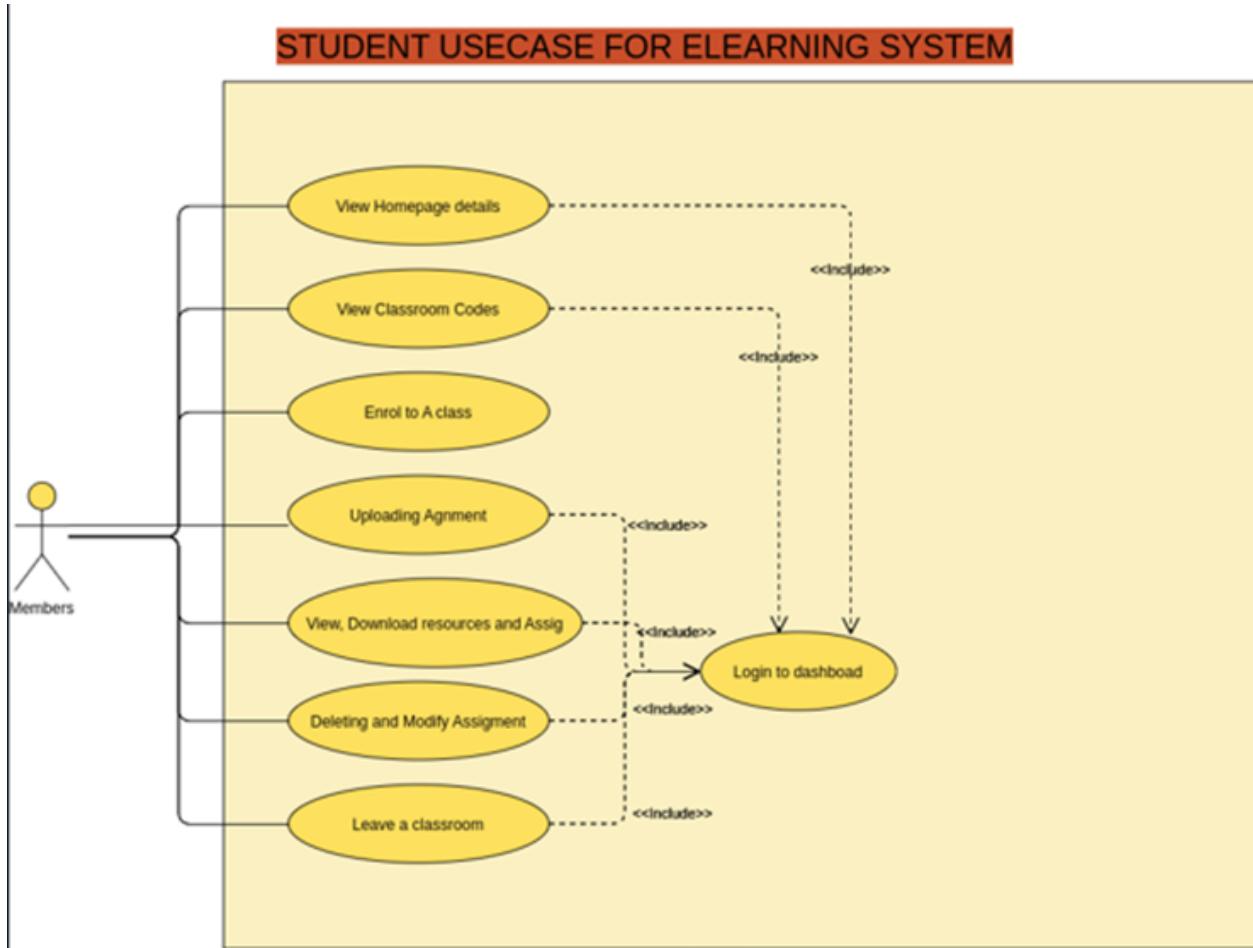


Error case: Teacher's Use case for eLearning system

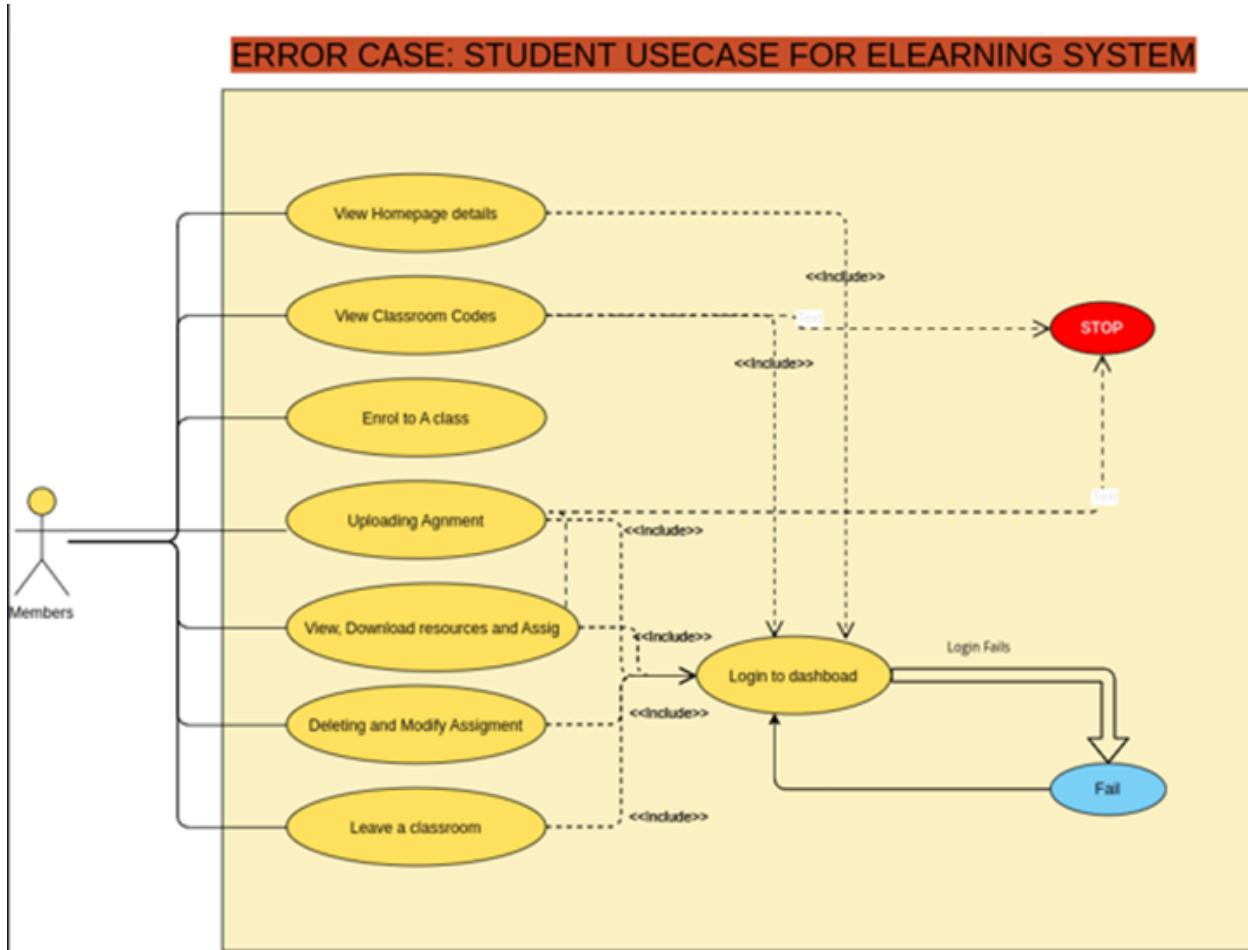
ERROR CASE: Teacher's USECASE FOR ELEARNING SYSTEM



Student use case Diagram for eLearning System



Student UML Error case



9. Testing

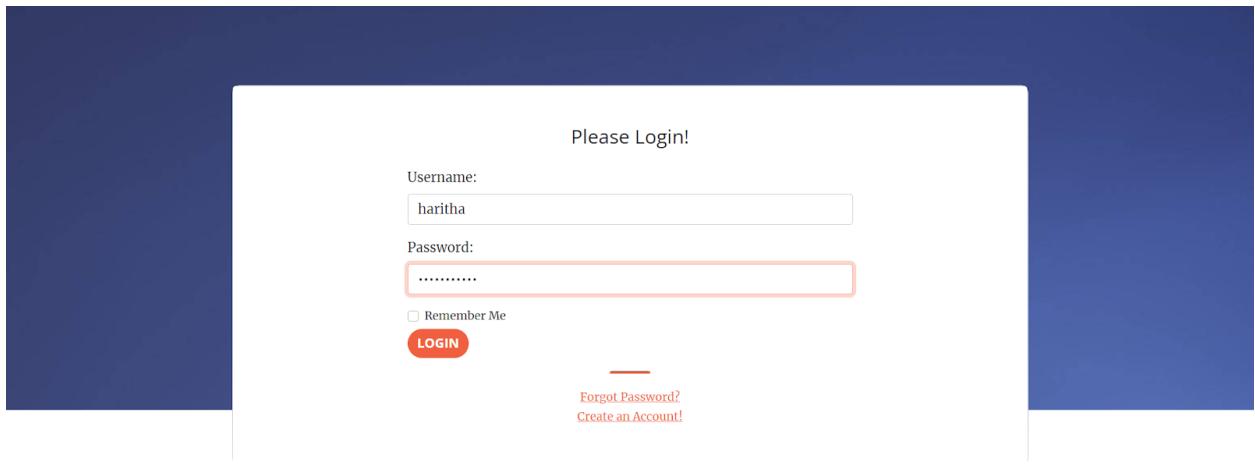
Here we performed Unit Testing framework to test our project. And the testing was done successfully.
Code uploaded in the github repository.

System Testing:

Here we are trying to login to the learning platform through following credentials

Username: haritha

Password: Haritha@123



By using above credentials students are able to login to this platform successfully.

A screenshot of a student dashboard titled "Student Dashboard". The main area is labeled "Classrooms". On the right, there's a sidebar with user information ("HARITHA T") and navigation links: "Dashboard", "Join Classroom", "View classrooms Available", and "Logout". A user icon is also present. The footer contains the copyright notice "Copyright © ELearn 2022".

10. Test cases

During the testing phase of an application or piece of software, a "test case" is a specified set of procedures that may be carried out in order to check that the application or program is operating correctly. A test case is nothing more than a set of criteria that need to be evaluated in order to establish whether or not the application or piece of software functions as intended. One of the numerous components of a case

is its identification number (ID), followed by its condition, steps, input, expected result, actual result, status, and comments.

S. No	Test Case Requirement	Test Priority	Input / Test Steps and Pre-Conditions	Expected Result	Output/ Obtained Result	Success/F ailure	Name of Tester
1	Accessing the application	High	Open any browser (chrome, mozilla, edge, etc) and enter the localhost port number	It must show the e-Learning website	It has displayed the e-Learning Website	Success	Uma,Haritha
2	onClickRegister Page	High	Click on the Register option	It must redirect you to the student/teacher welcome registration page	It redirected to the student/teacher page	Success	Nikitha,Jyothi
3	OnClick the Student	High	Click on the student button	It must navigate to course selection	It has been navigated to select the course	Success	Krupa, Rukma
4	OnClick Streamt	High.	Click on the course	It should go to the	It has been navigated to the Account	Success	Sivani, Dheeraj

				registration page	registration page		
5	OnClick Register Account	High	Click on register account button	Account should be created. It should navigate to the Login Page	Account creation successful and navigated to the login page	Success	Uma, Haritha
6	OnClick Login	High	Click on Login	It should be logged in to the student dashboard	It has been navigated to student dashboard	Success	Nikitha, Jyothi
7	OnManage	High	Click on Manage button	It must navigate to the specified classroom	It has been navigated to the classroom page	Success	Krupa, Rukma
8	OnClick Resource	High	Click on resource button	It should navigate to the page where files and resources posted by instructor	It has been navigated to download resources page	Success	Sivani, dheeraj
9	OnClick Assignment	High	Click on Assignment button	STudents should be able to view all the	It has been navigated to a page where student	Success	Uma, haritha

				submissions here	submissions are gathered		
10	OnClick Join Classroom	High	CLick on join classroom	By entering the code, Students must be able to join the classroom with classrode	Students are able to enter the classroom	Success	Nikitha, Jyothi
11	OnClick Teacher Dashboard	High	Click on Teacher	By entering credentials, teachers must be able to login to their dashboard.	Users are able to view teacher dashboard	Success	Krupa, Rukma
12	OnClick AddAssignment	High	Click on AddAssignment	Teacher should be able to add the assignments to the classrooms	Teacher is able to add the assignments and post it	Success	Sivani, Dheeraj
13	OnClick AddResource	High	Click on add resource	Teacher should be able to add the resources to the classrooms	Teacher is able to add the resources and post it	Success	Uma,Haritha

14	OnClick AddClassroom Page	High	Click on add classroom	Teacher must be add the classroom	Teacher is able to add the classrooms.	Success	Nikitha, Jyothi
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Test cases include:

- Student login/signup: The student should be able to login and signup.
- Leave a classroom: Student should be able to leave the classroom.
- Upload assignment: Student should be able to upload assignments.
- Download resources and assignment: Student can download resources and assignments without any trouble.
- Delete and update assignment: Student can delete and update assignments.
- Join a classroom: student can join a classroom.
- View all classroom: Student can view all available classroom.
- Access students' dashboard upon login: Student can access the dashboard while the student log in.

11. User Manual:

Screens:

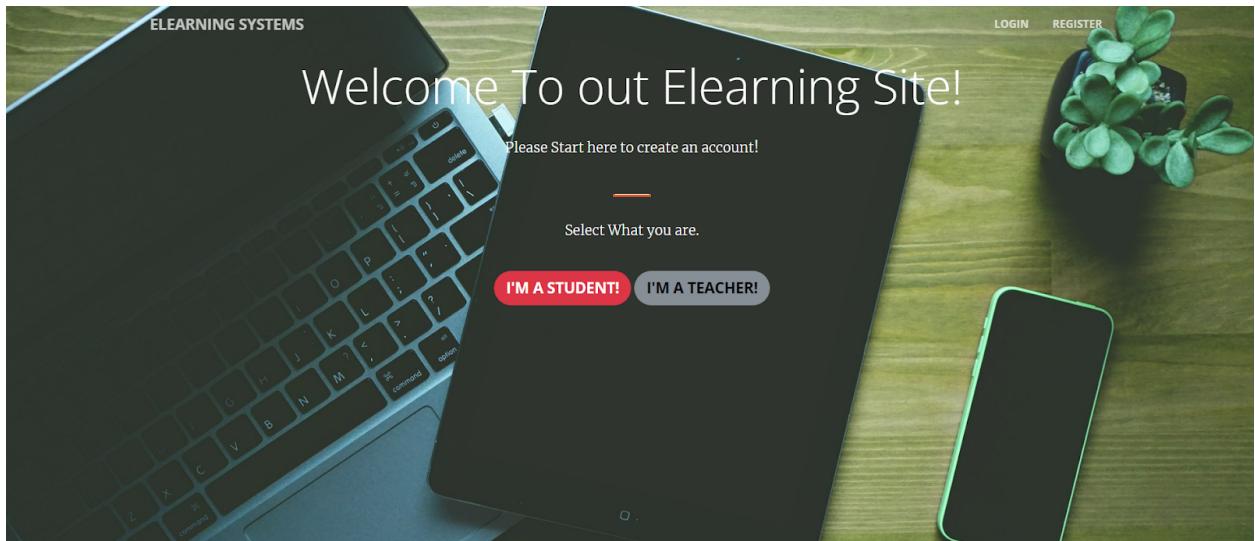
Home Page:

When we first open the site it looks like the below:



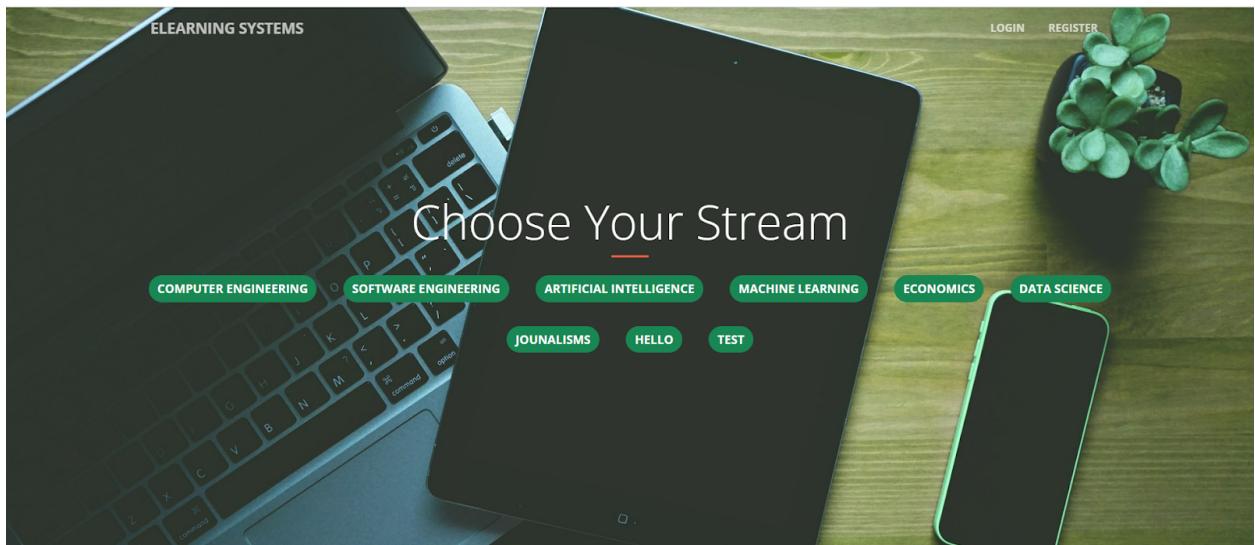
Register Page:

When a new user wants to use the website then he/she should register in the below page which has two options either as Student/Teacher.



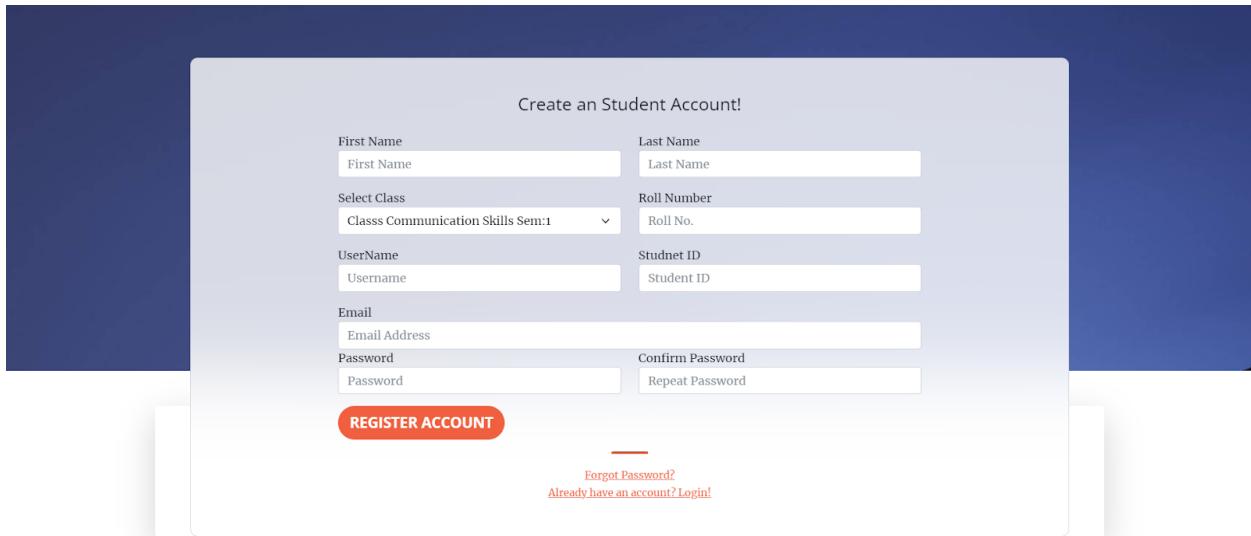
Course Selection before Registration Page:

User can select from available options to register.



Create Account Page:

Students has to give all the details in the below page and create account.

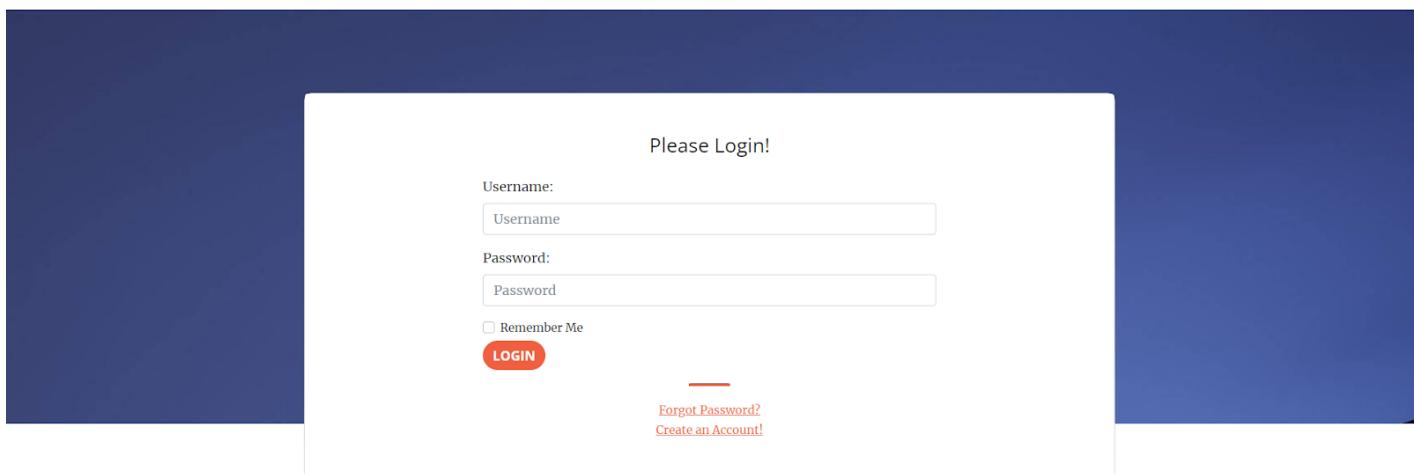


The screenshot shows a registration form titled "Create an Student Account!". It consists of several input fields arranged in a grid. The first row contains "First Name" and "Last Name" fields. The second row contains "Select Class" (a dropdown menu showing "Class Communication Skills Sem:1") and "Roll Number" fields. The third row contains "UserName" and "Student ID" fields. The fourth row contains "Email" (with "Email Address" placeholder) and "Password" fields, followed by "Confirm Password" and "Repeat Password" fields. Below the form is a red "REGISTER ACCOUNT" button. At the bottom right are links for "Forgot Password?" and "Already have an account? Login!".

First Name	Last Name
First Name	Last Name
Select Class	Roll Number
Class Communication Skills Sem:1	Roll No.
UserName	Student ID
Username	Student ID
Email	Confirm Password
Email Address	Repeat Password
Password	
REGISTER ACCOUNT	

Forgot Password?
Already have an account? [Login!](#)

Login Page: When we click on the Login button, the page below is displayed.



The screenshot shows a login form titled "Please Login!". It includes "Username:" and "Password:" fields, both with placeholder text. There is a "Remember Me" checkbox and a red "LOGIN" button. At the bottom right are links for "Forgot Password?" and "Create an Account!".

Username:
Username
Password:
Password
<input type="checkbox"/> Remember Me
LOGIN

Forgot Password?
[Create an Account!](#)

Student DashBoard:

Once a student login, the page below is viewed. This page displays all the classrooms the student has registered.

The screenshot shows the 'Student Dashboard' interface. At the top, it says 'Student Dashboard' and 'UMARANI VEMULA'. On the right, there's a vertical sidebar with icons for users, Math for Science, Unit1, and Software Engineering. The main area is titled 'Classrooms' and lists three entries:

- MATH FOR SCIENCE**: Classroom code: XSP0F705. Includes a 'Manage' button.
- UNIT1**: Classroom code: SD1AQDWG. Includes a 'Manage' button.
- SOFTWARE ENGINEERING**: Classroom code: SE. Includes a 'Manage' button.

Manage Page:

Students can manage their class by clicking on the Manage button. Below page is displayed.

The screenshot shows the 'Software Engineering' manage page. At the top, it says 'Student Dashboard' and 'UMARANI VEMULA'. On the right, there's a vertical sidebar with icons for users, Math for Science, Unit1, and Software Engineering. The main area is titled 'SOFTWARE ENGINEERING' and shows 'Design Modules'. It has two tabs: 'Resources' (green) and 'Assignments' (red). At the bottom, it says 'Copyright © ELearn 2022'.

Resource Page:

All the files(documents) posted by the instructor can be viewed and downloaded by the student in this page.

The screenshot shows the 'Student Dashboard' interface. On the right, a vertical sidebar displays navigation links for 'MATH FOR SCIENCE' (with 'UNIT1'), 'SOFTWARE ENGINEERING' (with 'UNIT1'), and other course sections. The main content area is titled 'SOFTWARE ENGINEERING : Resources'. It lists a single item: 'Design models' posted on 'Oct 29, 2022' with the note 'Please find the ppt'. A green button labeled 'Download Resource' is present. At the bottom of the main area, it says 'Copyright © ELearn 2022'.

Assignment Page:

Students can view all the assignments, its deadline and submit the assignment under this page.

The screenshot shows the 'Student Dashboard' interface. On the right, a vertical sidebar displays navigation links for 'MATH FOR SCIENCE' (with 'UNIT1'), 'SOFTWARE ENGINEERING' (with 'UNIT1'), and other course sections. The main content area is titled 'SOFTWARE ENGINEERING : Assignments'. It lists one assignment: 'Assignment1' with a deadline of 'Nov 01, 2022'. Below the assignment, there is a note 'Refer to Design models resource'. A green button labeled 'Manage Submission' is present. At the bottom of the main area, it says 'Copyright © ELearn 2022'.

Manage Submission Page:

Student can submit the assignment and download the submitted assignment and also delete the assignment in this page.

The screenshot shows the 'Student Dashboard' interface. On the left, there is a card titled 'Assignment1'. It contains the following information:

- Deadline : Nov 01, 2022
- Submitted on : Oct 29, 2022

A file named 'Design-Modules_iVzcrzN.pdf' is listed with a 'Download' button (green) and a 'Delete' button (red). The right side of the dashboard features a sidebar with navigation links for 'MATH FOR SCIENCE' (UNIT1), 'SOFTWARE ENGINEERING', and a 'Logout' button. At the bottom, it says 'Copyright © ELearn 2022'.

Student Options page:

Students can join new classes and view classes which are available and logout options are available under the student icon on the right corner.

The screenshot shows the 'Student Dashboard' interface. The main area is titled 'Classrooms' and lists three categories:

- MATH FOR SCIENCE: Classroom code : XSP0F705, with a 'Manage' button.
- UNIT1: Classroom code : SD1AQDWG, with a 'Manage' button.
- SOFTWARE ENGINEERING: Classroom code : SE, with a 'Manage' button.

On the right side, there is a sidebar with navigation links for 'Dashboard', 'Join Classroom', 'View classrooms Available', and a 'Logout' button. At the bottom, it says 'Copyright © ELearn 2022'.

Join Classroom Page:

Students can search for the class code on this page and the class will be shown in the student dashboard.

The screenshot shows the 'Student Dashboard' interface. On the right side, there is a vertical sidebar with icons for users, Math for Science, Unit1, and Software Engineering. The main area has a white background with a central box labeled 'Class code'. It contains the text 'Ask your teacher for the class code, then enter it here!' above a text input field labeled 'Classroom Code'. Below the input field is a blue button labeled 'Join Class'. At the bottom of the box, there is explanatory text: 'To sign in with a class code', 'Use an authorized account', 'Use a class code with 5-7 letters or numbers, and no spaces or symbols.', and 'If you have trouble joining the class, go to the Help.'

View Classrooms Page:

Students can view all the classes which are available on this page.

The screenshot shows the 'Available Classes' section of the dashboard. It features a table with columns for 'Teacher Name', 'Subject Name', 'Classroom Code', and 'Semester'. The table lists various classes such as 'MATH FOR SCIENCE', 'UNIT1', and 'SOFTWARE ENGINEERING' taught by different teachers like 'Stephen Kamaupj', 'John John', and 'Suma Rani'. The 'Software Engineering' class is listed twice. The sidebar on the right is identical to the one in the previous screenshot.

Available Classes			
Teacher Name	Subject Name	Classroom Code	Semester
Stephen Kamaupj;	MATH For science	XSP0F705	1
Stephen Kamaupj;	MATH For science	X1GKK5MX	3
John John	Foundations of AI	WB7ORPFI	3
John John	Ethics in AI	G3SW3MPD	1
test test	Calculus I	QCAPXZ95	1
John John	Economics I	AKERXXVS	1
John John	Demo	UX90WW0ZC	1
teacher teacher	Unit1	SD1AQDWG	1
Suma Rani	Software Engineering	SE	2
Sivani Akkem	Software Engineering	KSSEPBNG	1

Teacher Dashboard:

Teacher can view the classes which he/she will be teaching and list of students who are registered for that class on this page.

The screenshot shows the 'Teacher's Dashboard' interface. At the top, there is a header bar with the user name 'SIVANI AKKEM' and a profile picture. Below the header, the main content area is titled 'Classrooms'. It displays a single classroom entry for 'Software Engineering' with the 'Classroom code : KSSEPBNG'. There are two buttons at the bottom of this card: a blue 'Manage' button and a yellow 'Students' button. On the right side of the dashboard, there is a vertical sidebar with icons for users, software engineering, and navigation.

Teacher's Manage Page:

Teacher can post the files and assignments for the student.

The screenshot shows the 'Teacher's Dashboard' interface, specifically the 'SOFTWARE ENGINEERING' section. The title 'SOFTWARE ENGINEERING' is prominently displayed. Below it, there is a button labeled '+ Add Section'. Underneath the title, there is a sub-section titled 'Software Engineer'. This sub-section includes three buttons: 'Resources' (green), 'Assignments' (blue), and 'Delete' (red). The 'Resources' button is highlighted. On the right side of the dashboard, there is a vertical sidebar with icons for users, software engineering, and navigation.

Teacher Add Assignment Page:

Teachers can add assignments with the below details to the students in this page.

The screenshot shows the 'Teacher's Dashboard' with a sidebar on the right containing icons for users and 'Software Engineering'. The main content area is titled 'Add Assignment'. It includes fields for 'Section title' (with placeholder 'Section title'), 'Text' (a large text area), 'Deadline' (set to November 27, 2022), 'File' (a file upload field showing 'No file chosen'), and a 'Submit' button. At the bottom, it says 'Copyright © ELearn 2022'.

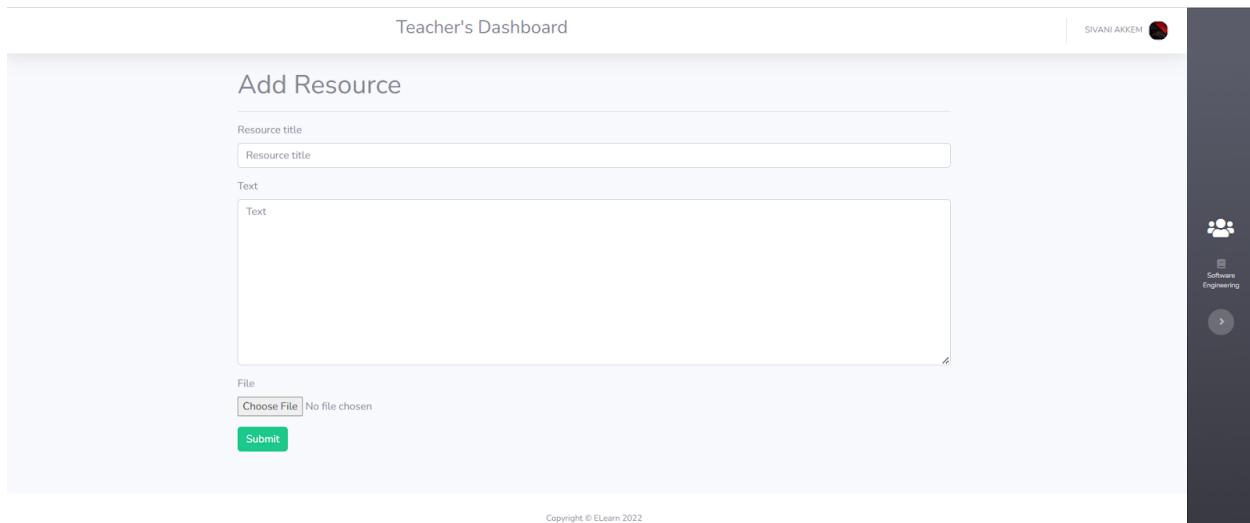
Assignment Submission Pages:

Teachers can view the assignments submitted by the students on this page.

The screenshot shows the 'Teacher's Dashboard' with a sidebar on the right containing icons for users and 'Software Engineering'. The main content area is titled 'Assignment Submissions' and shows a table for 'Assignment1'. The table has a header row with columns: Name, Student ID, Class, Roll No., Submission date, and Download File. A note at the top of the table says 'Deadline : Nov 09, 2022'. At the bottom, it says 'Copyright © ELearn 2022'.

Add Resource Page:

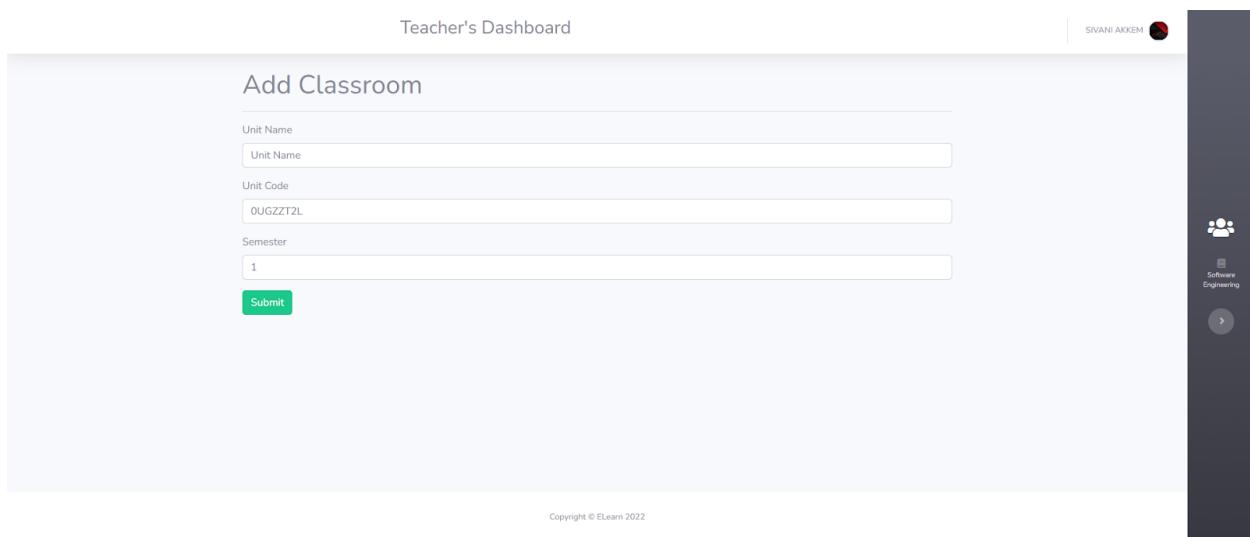
Teachers can add resources in the below page.



The screenshot shows the 'Teacher's Dashboard' with a vertical sidebar on the right. The sidebar displays a profile picture of 'SIVANI AKKEM' with a red notification dot, the text 'Software Engineering', and a circular arrow icon. The main content area is titled 'Add Resource'. It contains fields for 'Resource title' (a text input field), 'Text' (a large text area), and 'File' (a file upload field showing 'Choose File No file chosen'). A green 'Submit' button is at the bottom. The footer of the page says 'Copyright © ELearn 2022'.

Teacher Add Classroom Page:

Teachers can add a new classroom if needed to have more students or on more requests in the below page.



The screenshot shows the 'Teacher's Dashboard' with a vertical sidebar on the right. The sidebar displays a profile picture of 'SIVANI AKKEM' with a red notification dot, the text 'Software Engineering', and a circular arrow icon. The main content area is titled 'Add Classroom'. It contains fields for 'Unit Name' (a text input field), 'Unit Code' (a text input field containing '0UGZZT2L'), and 'Semester' (a dropdown menu showing '1'). A green 'Submit' button is at the bottom. The footer of the page says 'Copyright © ELearn 2022'.

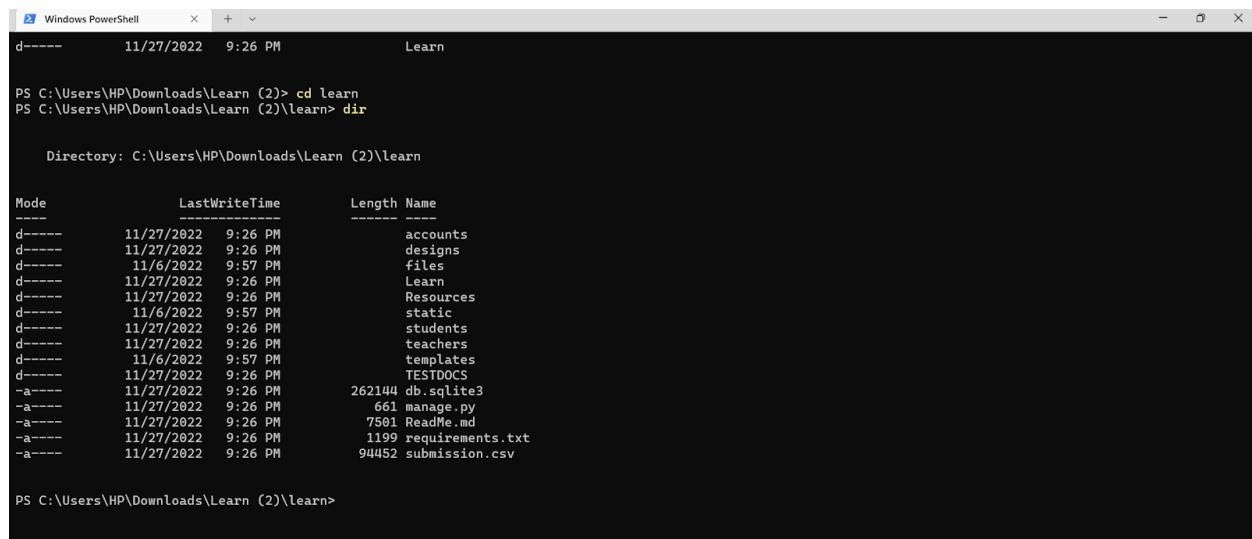
12. Compilation Instructions

Clear instructions on how to compile/run both your program and your test cases (the program must compile/run):

Steps to run code in local/system:- Open terminal and go to the project path.

1. install python set environment variables
2. install pip
3. pip install django
4. pip install django-bootstrap4
5. manage.py learn runserver
6. python manage.py runserver

The screen looks like below and shows the port number at which the website was started.



A screenshot of a Windows PowerShell window titled "Windows PowerShell". The title bar also displays the date and time: "11/27/2022 9:26 PM" and the word "Learn". The window content shows the following command-line session:

```
PS C:\Users\HP\Downloads\Learn (2)> cd learn
PS C:\Users\HP\Downloads\Learn (2)\learn> dir

Directory: C:\Users\HP\Downloads\Learn (2)\learn

Mode                LastWriteTime       Length Name
----                -----        ---- 
d----        11/27/2022  9:26 PM           accounts
d----        11/27/2022  9:26 PM           designs
d----        11/6/2022   9:57 PM           files
d----        11/27/2022  9:26 PM           Learn
d----        11/27/2022  9:26 PM           Resources
d----        11/6/2022   9:57 PM           static
d----        11/27/2022  9:26 PM           students
d----        11/27/2022  9:26 PM           teachers
d----        11/6/2022   9:57 PM           templates
d----        11/27/2022  9:26 PM           TESTDOCS
-a---        11/27/2022  9:26 PM      262144 db.sqlite3
-a---        11/27/2022  9:26 PM         661 manage.py
-a---        11/27/2022  9:26 PM        7561 ReadMe.md
-a---        11/27/2022  9:26 PM       1199 requirements.txt
-a---        11/27/2022  9:26 PM      94452 submission.csv

PS C:\Users\HP\Downloads\Learn (2)\learn>
```

```

d--- 11/27/2022 9:26 PM Learn
PS C:\Users\HP\Downloads\Learn (2)> cd learn
PS C:\Users\HP\Downloads\Learn (2)\learn> dir

Directory: C:\Users\HP\Downloads\Learn (2)\learn

Mode                LastWriteTime       Length Name
----                -----          ---- 
d---- 11/27/2022  9:26 PM           accounts
d---- 11/27/2022  9:26 PM           designs
d---- 11/6/2022    9:57 PM           files
d---- 11/27/2022  9:26 PM           Learn
d---- 11/27/2022  9:26 PM           Resources
d---- 11/6/2022    9:57 PM           static
d---- 11/27/2022  9:26 PM           students
d---- 11/27/2022  9:26 PM           teachers
d---- 11/6/2022    9:57 PM           templates
d---- 11/27/2022  9:26 PM           TESTDOCS
-a---- 11/27/2022  9:26 PM      262144 db.sqlite3
-a---- 11/27/2022  9:26 PM        661 manage.py
-a---- 11/27/2022  9:26 PM        7501 README.md
-a---- 11/27/2022  9:26 PM        1199 requirements.txt
-a---- 11/27/2022  9:26 PM      94452 submission.csv

PS C:\Users\HP\Downloads\Learn (2)\learn> python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...
System check identified no issues (0 silenced).
November 27, 2022 - 21:27:46
Django version 4.1.2, using settings 'Learn.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.

```

13. Summary of Features

13.1 Implemented Features

In our project we implemented an e-Learning system which provides education to each and every individual who has access to the internet. It's an open-source which is accessible to everyone for free. It includes a tutor and student modules where a user can register themselves as student or tutor. The main features are a teacher can post assignments, provide modules, and feedback which also has a classroom discussion. Students are able to download the resources and work on the assignments where they can be able to assess their understanding of the modules.

13.2 Limitations of the project

Limitations of E-learning are classified into two types and they are technological limitations, personal limitations.

Technological Limitations:

The availability of enough resources and computing gear is one of the most significant technological constraints in e-learning. The necessity for students to have constant access to desktops or laptops, as well as the expense of hardware, is seen as the primary barrier of this sort of learning system, and is the primary reason why small and medium level firms do not take the risk of E-learning to educate their personnel. One of the biggest problems with E-learning is that it relies on everyone always being

connected to the same network of computers. If a student or teacher loses access to the network, the rest of the class suffers, and in certain situations, the rest of the class may even be disrupted.

Personal limitations:

Learners who are unfamiliar with e-learning need to be prepared for the reality that, contrary to popular belief, e-learning is not the same as conventional learning. In the absence of direct instruction, even inexperienced students may be tempted to abandon e-learning. This is because they will not know where to begin or how to solve problems that arise. Once they've had some basic orientation training, new employees can begin using non-traditional methods of education like e-learning. This suggests that training is required for new users of e-learning systems.

13.3 UnImplemented features

As of now, we've planned to execute our features and we achieved them. So, we aren't left with any of the features that need to be completed.

13.4 Future Plans

In our project, we implemented an e-Learning website which includes a user-friendly UI and is accessible to everyone easily. So, in future we are planning it to make a mobile application.

14. Peer Review Feedback

My colleague informed me that they were able to test the features of the system in order to establish whether or not it fulfills the requirements that the clients have stated. This information was presented to me by my colleague. The great majority of users were able to manage the system with no difficulties at all, which is a direct reflection on the system's high level of user friendliness.

15. Brief Reflection

In conclusion, I've realized that developing a completely working system is not only challenging labor, but it also requires an in-depth knowledge of database architecture and several programming languages.

This was one of the most valuable lessons I've ever acquired. While carrying out this research, we discovered something that led us to this conclusion.

If the university takes this approach, it will be able to become a more innovative institution and avoid a stalemate that is produced by the widespread dissemination of erroneous information among the teaching staff and the student body.

16. References

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- Syed, T. A., Palade, V., Iqbal, R., & Nair, S. S. (2017). A personalized learning recommendation system architecture for Learning Management System. *Proceedings of the 9th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*.
<https://doi.org/10.5220/0006513202750282>

17. Team Member Contribution Table

Name	Contributions	Overall Contribution(%)	Notes
Nikitha Rao Jakati	Backend Developer	12.5	Backend code ,HTML, UML diagrams
Umarani Vemula	Backend Developer/ Testing	12.5	Backend code, Testing, documentation
Sivani Akkem	Database Administrator	12.5	Backend code, Frontend coding, UML diagrams
Haritha Talupula	UI Developer/ Testing	12.5	Backend code ,CSS, Bootstrap,Frontend coding, UML diagrams
Jyothirmayee Manne	UI Developer / Testing	12.5	Backend code , JavaScript documentation
Sai Rukma Reddy Gade	Backend Developer/ Testing	12.5	Backend code ,HTML frontend coding, documentation
Lakshmi Dheeraj Oruganti	Database Administrator	12.5	Backend code , frontend code documentation
Sai Krupanand Reddy Bakaram	UI Developer/ Testing	12.5	Backend code, Python, JavaScript, Test cases