



CSE471: System Analysis & Design

Project Report

**Project Title: OpportuLearn: Bridging Poverty & Empowering
Lives through Learning with IT and Employment**

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Introduction

“OpportuLearn” is a dynamic education platform aiming at diverse age-groups, from young children to unemployed adults, to teach and hone their skills over fields, especially in the IT sector. We offer both paid and free courses, along with lecture materials and interactive live classes. Upon completion of a course the users will receive a certificate, which they can use to apply for a job/free-lancing and starting earning. In modern times, such skills present numerous opportunities in the job-market, making OpportuLearn a gateway to a fulfilling and sustainable career.

Functional Requirements

Module 1: User Registration and Authentication.

- User Login and LogOut
- User Registration
- Edit Profile
- Admin Registration
- Forgot Password

Module 2: Course Management

- Display courses
- Search courses
- Categories for courses (paid/unpaid; subject levels)
- Join/add course
- Updated notes and practice materials for learners

Module 3: Engagement Hub

- Live-streaming
- User payment
- Course videos
- User forum for Q/A
- Certification upon completion of course

Module 4: Admin Panel

Admin can view all profiles

Admin can manage user profile (add, edit & delete profiles)

Admin course management

Admin payment verification

Admin Forum Management

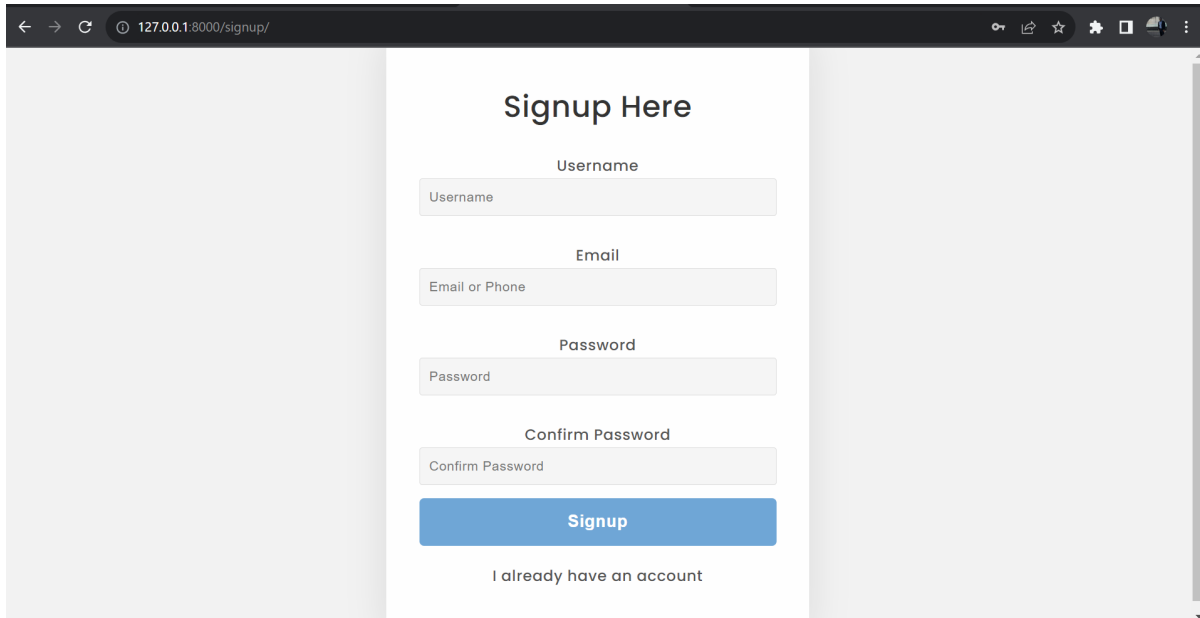
Additional Features:

Schedule for offline classes.

Career Support

User Manual

- At start users will arrive at the signup page to create an account.



127.0.0.1:8000/signup/

Signup Here

Username

Email

Email or Phone

Password

Confirm Password

Signup

[I already have an account](#)

- Once they create an a/c they will get an email to activate their account.



progyatalukder11@gmail.com <progyatalukder11@gmail.com>

12/10/2023 11:30 PM

To: progyatalukder11@gmail.com

Welcome to OpportuLearn!

Hello !

Please activate your account by clicking on the following link.

Active: <http://127.0.0.1:8000/activate/MjA/bz0mm5-4699b2b645ebc6aea20a2c36cd7ad410>

- Then when they follow the link they will get the message that “Your account has been activated!” and it will redirect to the login page. Then they can login.

The image shows a web interface with a light gray background. At the top, there is a white notification box with rounded corners and a subtle shadow. Inside this box, the text "127.0.0.1:8000 says" is in bold black font, followed by "Your Account has been activated!" in a regular black font. A blue button with the text "OK" in white is located in the bottom right corner of the notification box. Below the notification box is a large white card with rounded corners and a shadow. The card contains the heading "Login Here" in a large, bold, black font. Underneath the heading are two input fields: the first is labeled "Username" and contains the placeholder text "Enter Username"; the second is labeled "Password" and contains the placeholder text "Password". Below these fields is a prominent blue button with the text "Log In" in white. At the bottom of the card, there are two links: "Reset Password" and "Create an account", both in a regular black font.

127.0.0.1:8000 says

Your Account has been activated!

OK

Login Here

Username

Enter Username

Password

Password

Log In

Reset Password

Create an account

- Anyone who forgets their password they can reset it using 'Reset Password'. They will get an email, there an link will be provided to to change the password and lead it to the change password.

Welcome To Opportulearn

Hello, admin

[Logout](#)

Reset Password

Please check your email and follow the instruction to reset your password.

Password reset on 127.0.0.1:8000



progyatalukder11@gmail.com <progyatalukder11@gmail.com>

12/10/2023 11:30 PM

To: progyatalukder11@gmail.com

Hi

You're receiving this email because you requested a password reset for your user account at 127.0.0.1:8000/

Please click the following link to reset your password:

<http://127.0.0.1:8000/password-reset-confirm/MjA/bz0mn4-477a3d77d1d5fc80f7b12a3e99a674bc/>

Thanks

Opportulearn

Welcome To Opportulearn

Hello, Pro

[Logout](#)

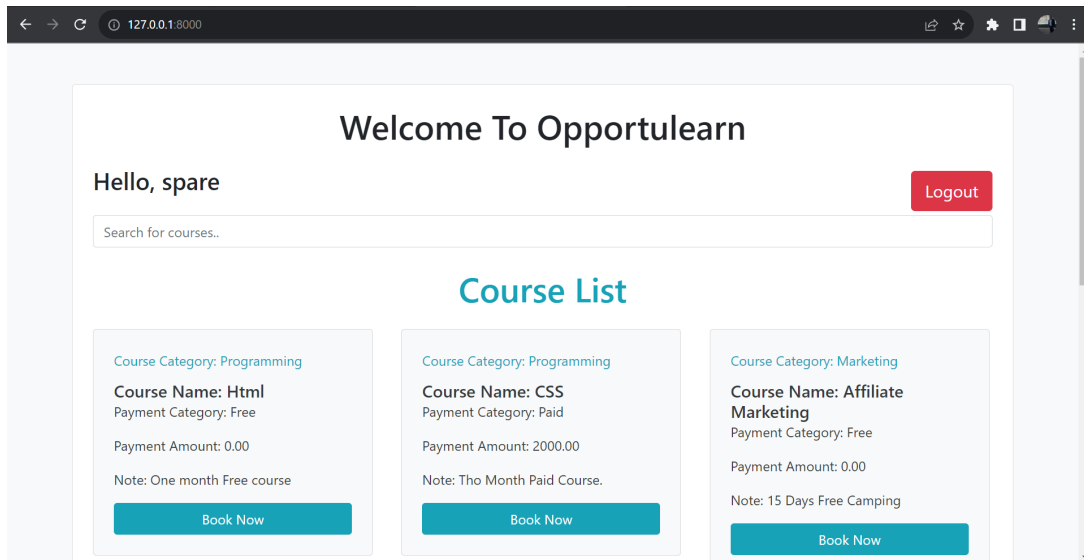
Password Reset Confirm

New password:

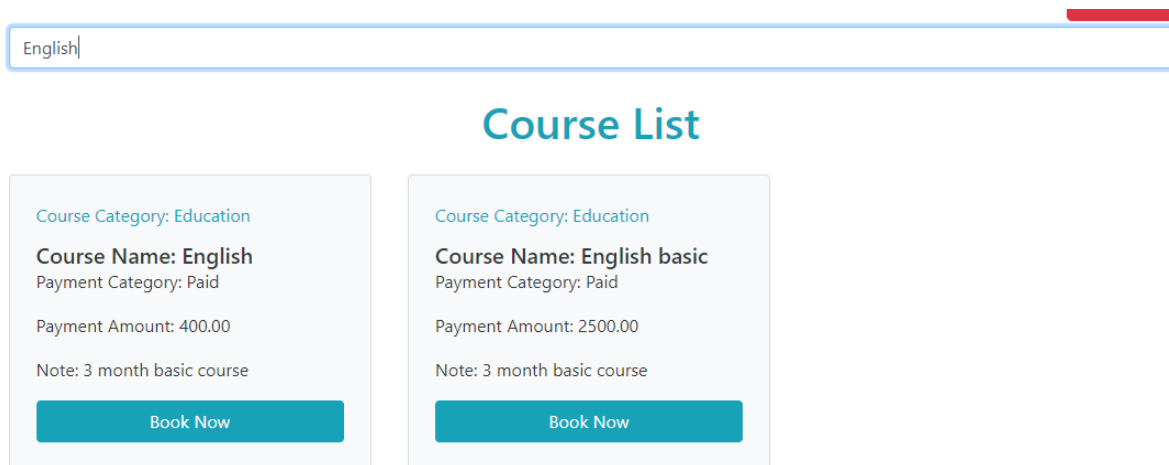
New password confirmation:

[Reset Password](#)

- Once logged in, users will be able to view the Home page. All courses are displayed.



- Both users and admin can search for their desired courses



- All courses have fields such as Course category, Paid/Unpaid, Subject levels (Note)

Course List

<p>Course Category: Programming</p> <p>Course Name: Html Payment Category: Free</p> <p>Payment Amount: 0.00</p> <p>Note: One month Free course</p> <p>Book Now</p>	<p>Course Category: Programming</p> <p>Course Name: CSS Payment Category: Paid</p> <p>Payment Amount: 2000.00</p> <p>Note: Tho Month Paid Course.</p> <p>Book Now</p>	<p>Course Category: Programming</p> <p>Course Name: JS Payment Category: Paid</p> <p>Payment Amount: 2000.00</p> <p>Note: N/A</p> <p>Book Now</p>
---	--	--

Admin can add courses to the homepage by using the “Add New Course” button. The admin can also select the category, course name, payment type, amount and add notes.

Programming

Course Name

Payment Category

Payment Amount

Note

[Book Now](#)

Welcome To Opportulearn

Hello, admin

Logout

Add Course

(Add New Category)

Category:

Name:

Payment category:

Payment amount:

3 month basic course

Note:

Save Course

[Home](#)

Admin can add new Category

welcome to Opportulearn

Hello, admin

Logout

Add Category

Name:

Save Category

[Home](#)

[Retun Add Course](#)

Users can add/join/book courses by clicking on Book Now button

The screenshot displays a web interface for 'Opportulearn'. At the top, it says 'Welcome To Opportulearn'. Below this, on the left, is a greeting 'Hello, sami'. On the right, there is a red 'Logout' button. A large white box contains a list of details: 'User Name: sami', 'Course Category: Programming', 'Course Name: Html', 'Payment Category: Free', 'Payment Amount: 0.00', and 'Note: One month Free course'. Below this box is a section titled 'Book Course' which contains a large empty rectangular area for a video or image. At the bottom left of this section is a 'Note:' label. At the bottom center is a blue 'Book Now' button.

- Users can click on the Student Homepage button in the main Homepage, to view their personal homepage, from here, users can view their details, courses that they are doing, course video playlist, updated notes and certificates.

Welcome To Opportulearn

Hello, sami Logout

Student Homepage

Student Information
Username: sami Email: sami@gmail.com
Courses
User Courses Exist! English - Video Playlist https://www.youtube.com/watch?v=J2p8UmVZ6hs&list=PLcetZ6gSk968osFdoDReyVXyNrZO9b3 English - Notes https://www.scribd.com/document/436020155/1-standard-English-notes-docx

- To join live classes users need to click on the ‘Video Call Dashboard’ button.

Book Now

Book Now

Book Now

Course Category: Education

Course Name: English

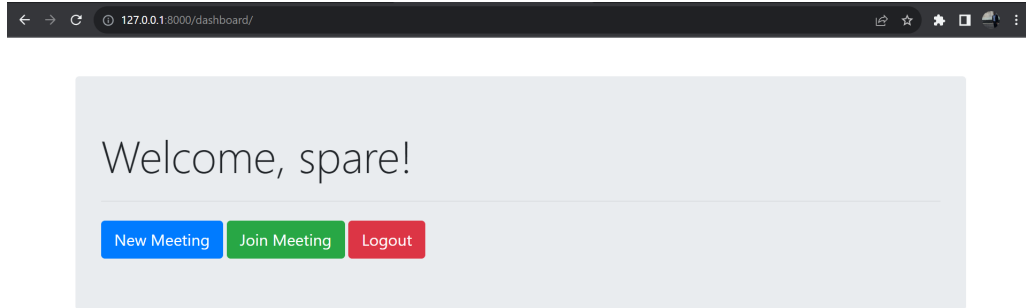
Payment Category: Paid

Payment Amount: 400.00

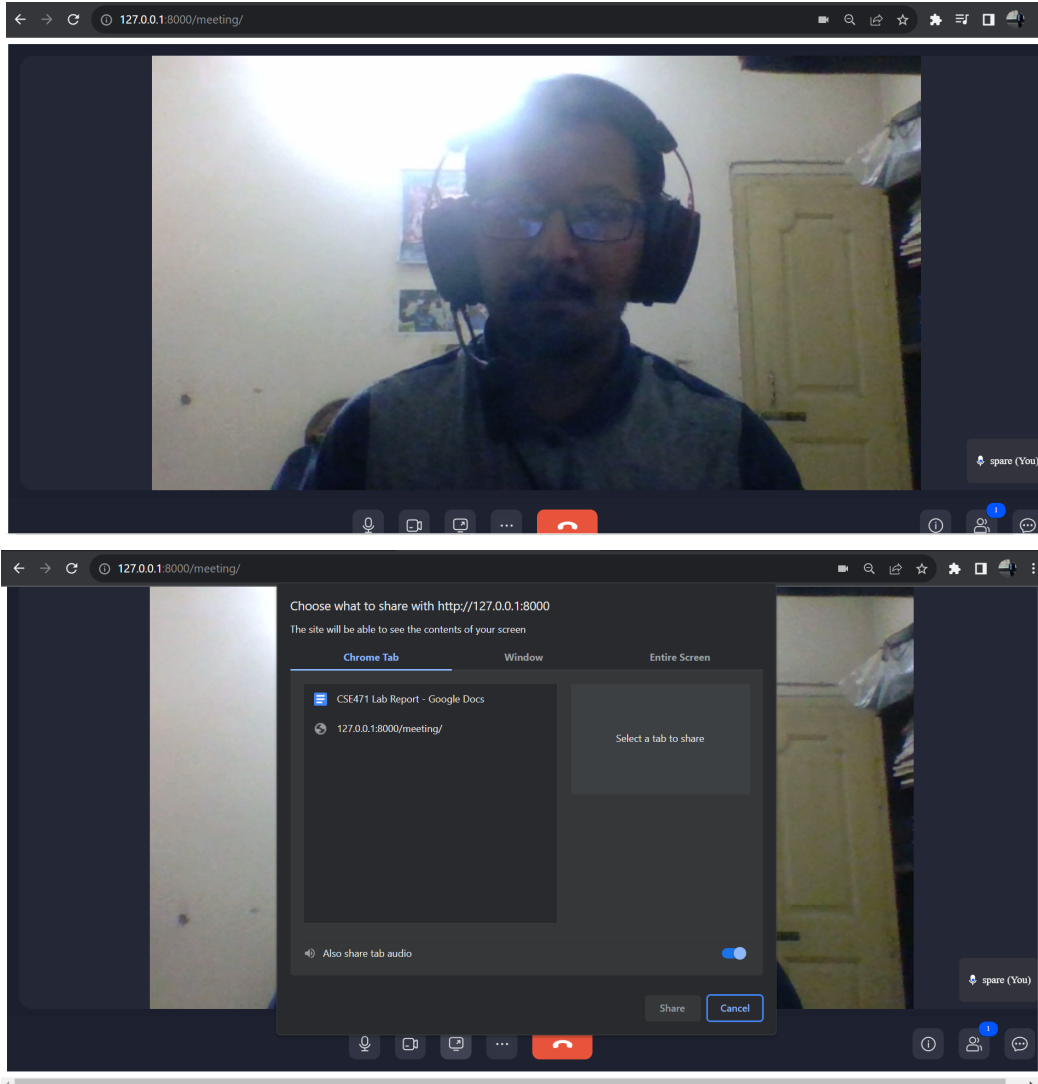
Note: 3 month basic course

Book Now

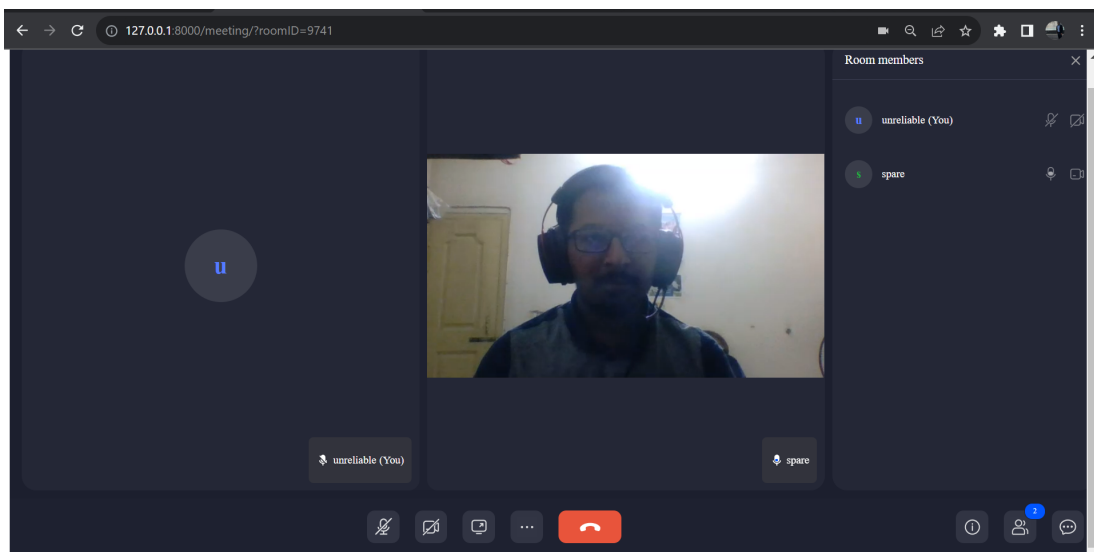
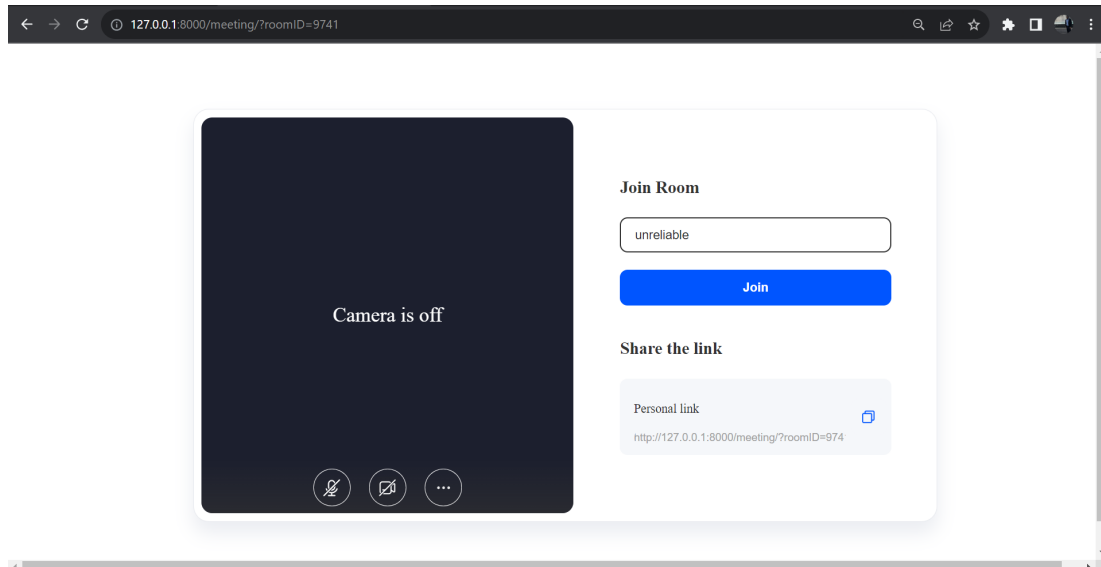
Video Call Dashboard
Student Homepage
Post Q/A
Payment



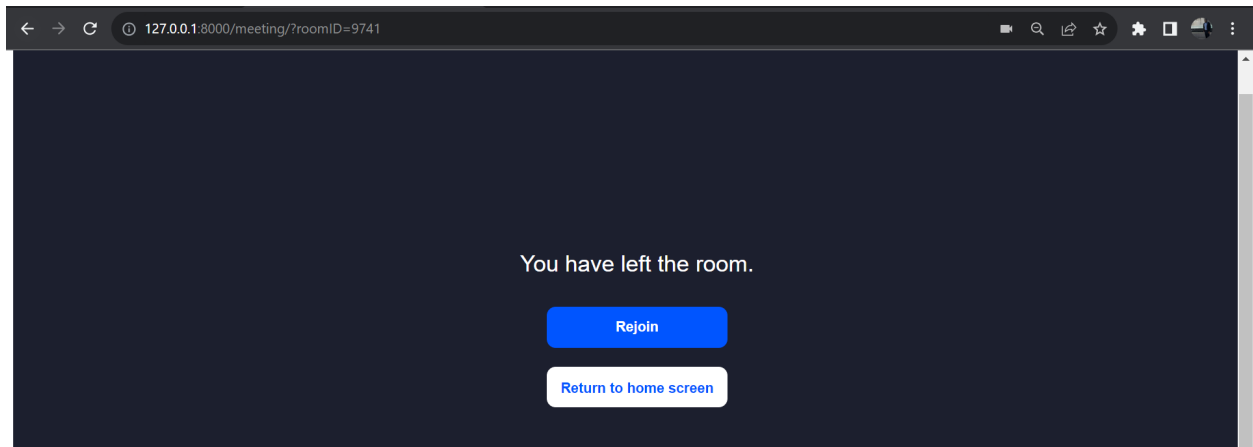
- Teachers can turn on their cameras, share their screen, generate and share the meet link.



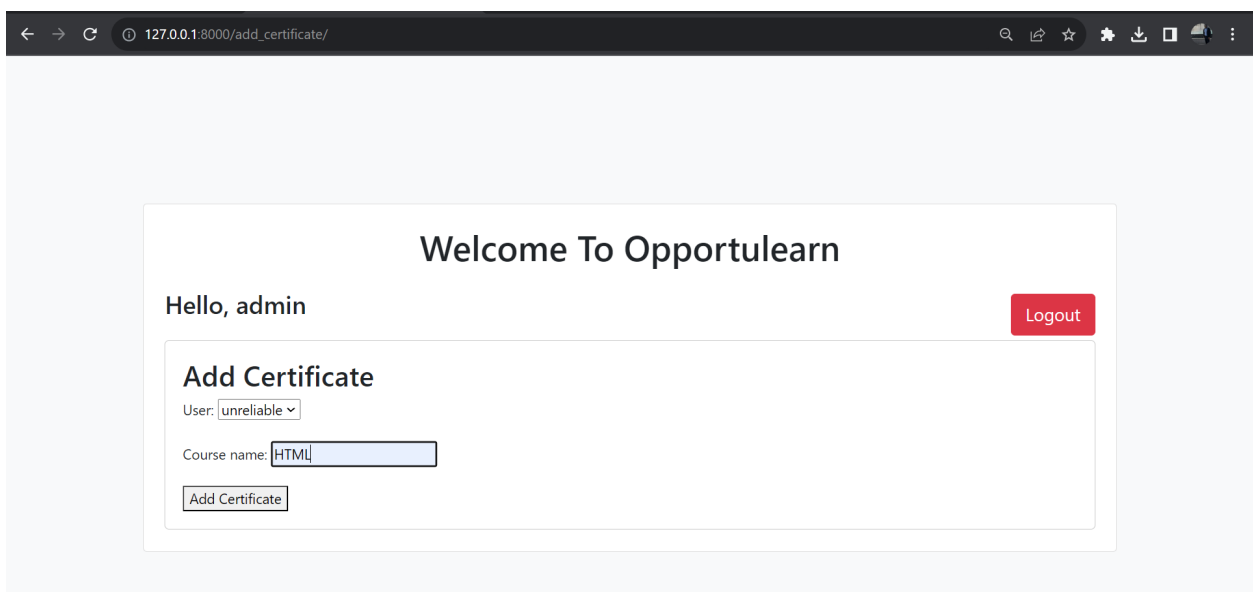
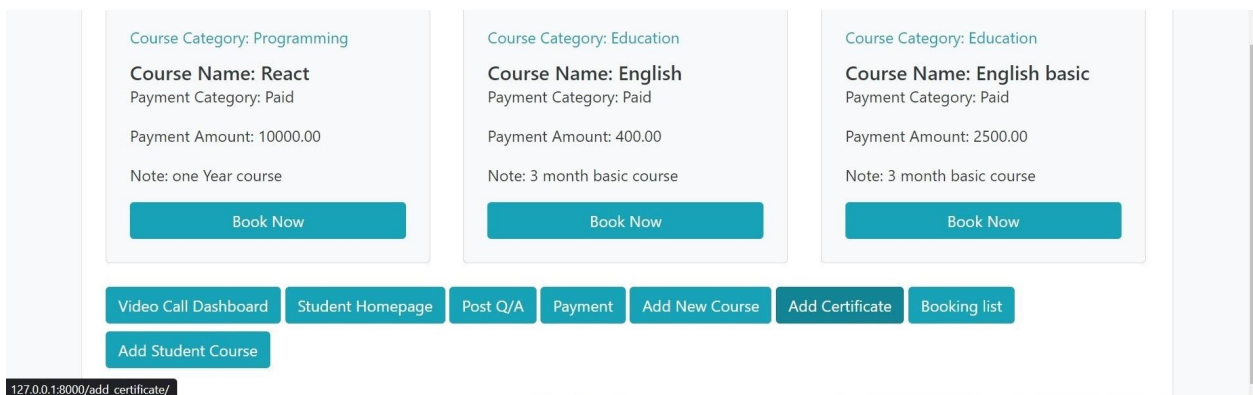
Students can enter the meet link to join the sessions, ask questions in meet chat.



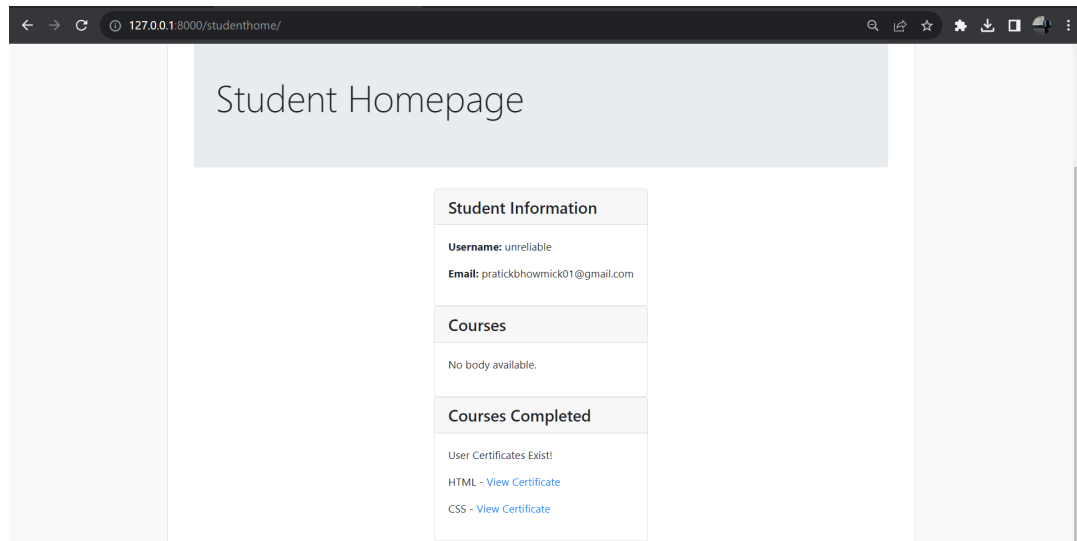
- There is an option to rejoin the meeting if they left by mistake.



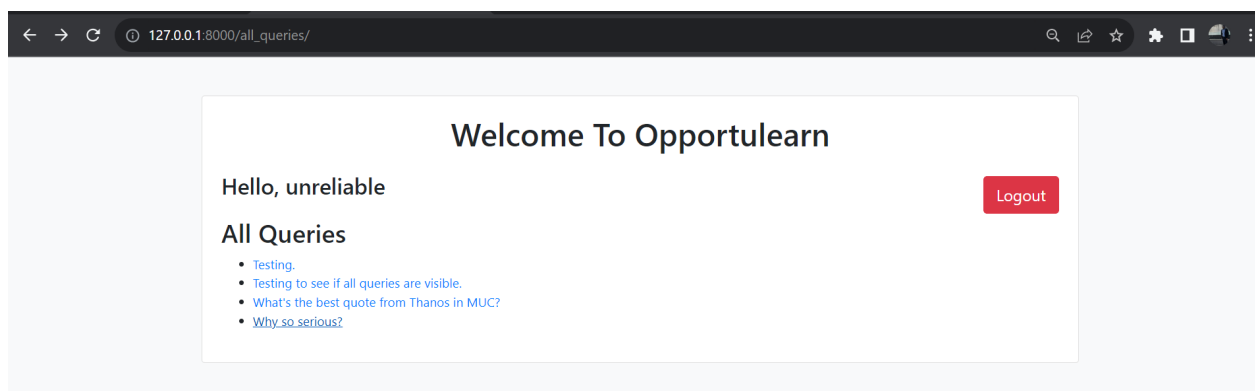
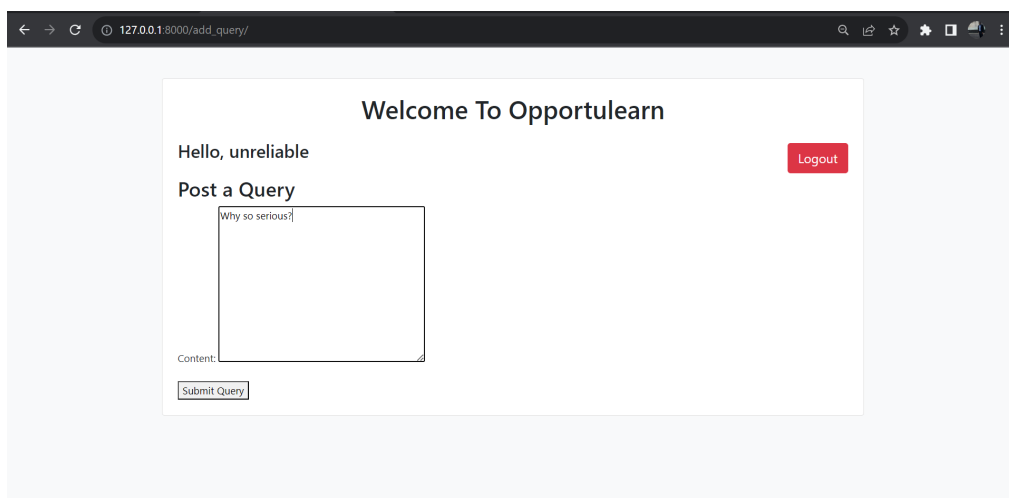
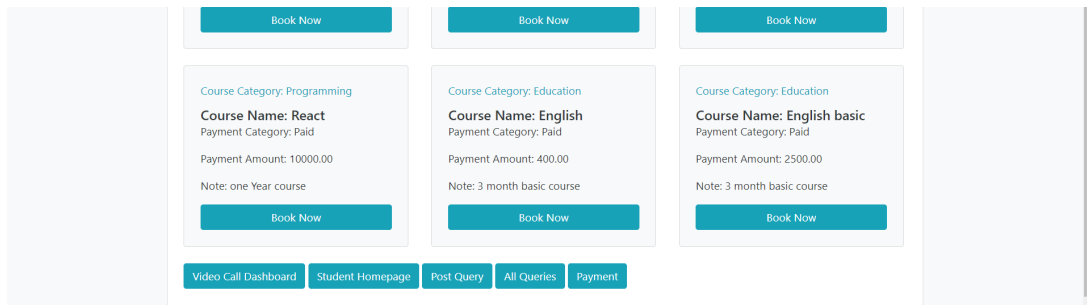
- Admin can add certificates to a user upon their completion of the course.

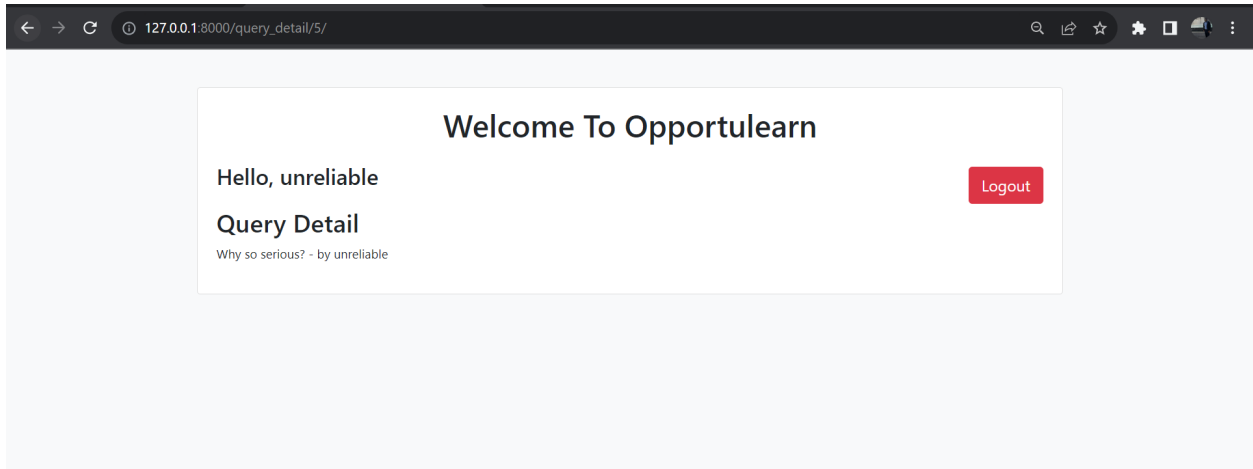


Students can view the certificate on their homepage.

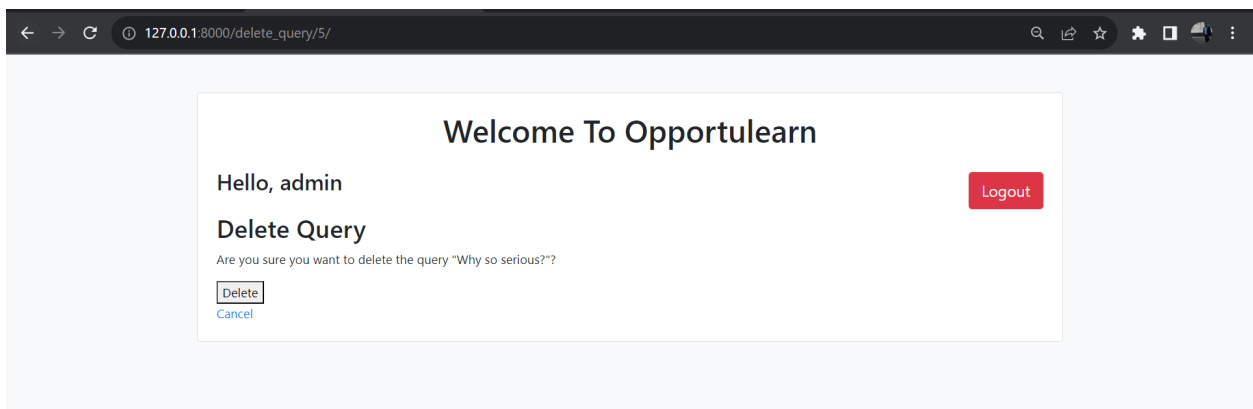
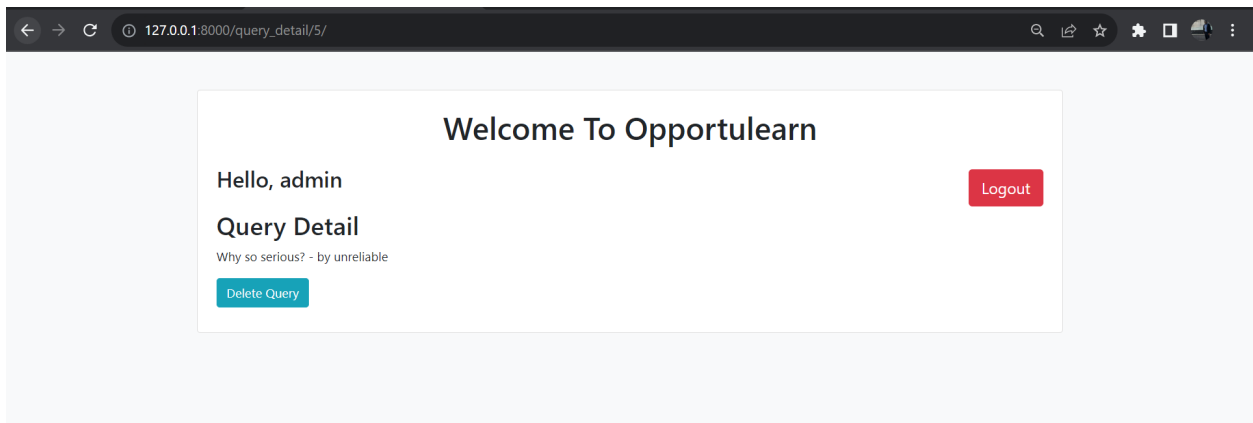


- Users and admin can post questions via the Post Query button. All queries can be viewed from All Queries.





- Admin can manage the queries.



- Admin can view all bookings made by users, by clicking on the Booking List button in the homepage.

Welcome To Opportulearn

Hello, admin

Logout

User Name	Booking Course	Booking Note
admin	Html	I want to book this course
admin	CSS	i am inerlolpiep
oishe	Html	swyhk
sami	Html	
admin	Html	
admin	English	
sami	CSS	
sami	JS	
sami	React	
sami	Html	hello im interested
sami	Html	hello

[Home](#)

By clicking “Booking list”

Payment Amount: 560.00

Note: 3 month basic course

[Book Now](#)

[Homepage](#)
[Post Q/A](#)
[Payment](#)
[Add New Course](#)
[Add Certificate](#)
[Booking list](#)

Activate WordPress
Go to Settings to activate your theme.

Admin can add certificates to the users upon completion of a course from the Student Homepage.

Welcome To Opportulearn

Hello, admin [Logout](#)

Add Certificate

User:

Course name:

[Add Certificate](#)

- Admin can dynamically add user, course name, type of data which is being shared to the student homepage

Welcome To Opportulearn

Hello, admin [Logout](#)

Add Student Course

User:

Course name:

Course playlist:

Type name:

[Add Student Course](#)

- Student can view the added courses from their respective homepage

Student Homepage

Student Information

Username: sami

Email: sami@gmail.com

Courses

User Courses Exist!

English - Video Playlist <https://www.youtube.com/watch?v=J2p8UmVZ6hs&list=PLcetZ6gSk968osFdoDReyVXyNrZO9b3>

English - Notes <https://www.scribd.com/document/436020155/1-standard-English-notes-docx>

English - Video Playlist <https://www.youtube.com/watch?v=J2p8UmVZ6hs&list=PLcetZ6gSk968osFdoDReyVXyNrZO9b3>

Courses Completed

No certificates available.

- Admin can manage user profile(add , edit & delete profiles)

Site administration

AUTHENTICATION AND AUTHORIZATION

Groups	+ Add	Change
Users	+ Add	Change

EDUCATION

Bookings	+ Add	Change
Categories	+ Add	Change
Courses	+ Add	Change

VIDEO_APP

Certificates	+ Add	Change
--------------	-------	--------

Recent actions

My actions

- + oishee - Python
Booking
- × sami - Html
Booking
- × sami - CSS
Booking
- × sami - Fb Affiliate Market
Booking
- × sami - JS
Booking
- × sami - Fb Affiliate Market
Booking
- + blog
Category
- × sami - React
Booking
- + Certificate object (6)
Certificate

Booking course by admin management

Home > Education > Bookings > Add booking

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

EDUCATION

Bookings + Add

Categories + Add

Courses + Add

VIDEO_APP

Certificates + Add

Add booking

User:

oishe

Course:

Python

Note:

Paid by Bkash

SAVE

Save and add another

Save and continue editing

Delete Booking by admin management

Home > Education > Bookings

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups [+ Add](#)

Users [+ Add](#)

EDUCATION

Bookings [+ Add](#)

Categories [+ Add](#)

Courses [+ Add](#)

VIDEO_APP

Certificates [+ Add](#)

Select booking to change

Action: [Delete selected bookings](#) [Go](#) 0 of 7 selected

☐ BOOKING

☐ oishee - Python

☐ admin - English

☐ admin - Html

☐ oishe - Html

☐ admin - Fb Affiliate Marketing

☐ admin - CSS

☐ admin - Html

7 bookings

Add categories by admin management

Home > Education > Categories > Add category

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups [+ Add](#)

Users [+ Add](#)

EDUCATION

Bookings [+ Add](#)

Categories [+ Add](#)

Courses [+ Add](#)

VIDEO_APP

Certificates [+ Add](#)

Add category

User: [-----](#) [✎](#) [+](#) [👁](#)

Name:

[SAVE](#) [Save and add another](#) [Save and continue editing](#)

Add course by admin management

Home > Education > Courses > Add course

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups [+ Add](#)

Users [+ Add](#)

EDUCATION

Bookings [+ Add](#)

Categories [+ Add](#)

Courses [+ Add](#)

VIDEO_APP

Certificates [+ Add](#)

Add course

Category: Education [✎](#) [+](#) [👁](#)

Name: English

Payment category: Paid [▼](#)

Payment amount: 360 [⬆](#) [⬇](#) [⬆](#)

Note: 1 month basic course

[SAVE](#) [Save and add another](#) [Save and continue editing](#)

Activate Windows
Go to Settings to activate Windows.

Delete categories by admin management

Home > Education > Categories

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups [+ Add](#)

Users [+ Add](#)

EDUCATION

Bookings [+ Add](#)

Categories [+ Add](#)

Courses [+ Add](#)

VIDEO_APP

Certificates [+ Add](#)

Select category to change

Action: [Delete selected categories ▼](#) [Go](#) 1 of 4 selected

☐ CATEGORY

☐ blog

☒ Education

☐ Marketing

☐ Programming

4 categories

Delete courses by admin management

Home > Education > Courses

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

EDUCATION

Bookings + Add

Categories + Add

Courses + Add

VIDEO_APP

Certificates + Add

Select course to change

Action:

Delete selected Courses

Go

 1 of 7 selected

☐ COURSE

☐ Python

☐ React

☐ JS

☐ Fb Affiliate Marketing

☐ Affiliate Marketing

☒ CSS

☐ Html

7 Courses

Add user by admin management

Home > Authentication and Authorization > Users > Add user

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

EDUCATION

Bookings + Add

Categories + Add

Courses + Add

VIDEO_APP

Certificates + Add

Add user

First, enter a username and password. Then, you'll be able to edit more user options.

Username:

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password:

Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.

Password confirmation:

Enter the same password as before, for verification.

SAVE

Save and add another

Save and continue editing

Delete user by admin

Home > Authentication and Authorization > Users

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

EDUCATION

Bookings + Add

Categories + Add

Courses + Add

VIDEO_APP

Certificates + Add

Select user to change

Action: Delete selected users ▾ 1 of 5 selected

<input type="checkbox"/>	USERNAME	EMAIL ADDRESS	FIRST NAME	LAST NAME	STAFF STATUS
<input type="checkbox"/>	abc	abc@gmail.com			✗
<input type="checkbox"/>	admin	admin@admin.com			✓
<input checked="" type="checkbox"/>	ali	ali1999@gmail.com			✗
<input type="checkbox"/>	oishe	oishe@gmail.com			✗
<input type="checkbox"/>	oishee	oishee@gmail.com			✗

5 users

Frontend Development

The following are Frontend codes, where we created the user interface and user experience of our website. It also consists of all the required connections to the backend of our code in a coherent manner.

Login Frontend development:

```
login.html X
CSE471 > templates > login.html > ...
64 width: 100%;
65 background-color: #6fa6d6;
66 color: #fff;
67 padding: 12px 0;
68 font-size: 16px;
69 font-weight: 600;
70 border-radius: 5px;
71 cursor: pointer;
72 transition: background-color 0.3s ease;
73 border: none; /* Removed the black border */
74 }
75 button:hover {
76 background-color: #4a85b7;
77 }
78 a {
79 display: block;
80 margin-top: 20px;
81 color: #394240;
82 text-decoration: none;
83 font-weight: 500;
84 transition: color 0.3s ease;
85 }
86 a:hover {
87 color: #1f2529;
88 }
89 </style>
90 </head>
91 <body>
92 <form method="post">
93 <h3>Login Here</h3>
94 {% csrf_token %}
95 <label for="username">Username</label>
96 <input type="text" placeholder="Enter Username" id="username" name="username" />
97 <label for="password">Password</label>
98 <input type="password" placeholder="Password" id="password" name="pass" />
99 <button type="submit">Log In</button>
100 <a href="{% url 'signup' %}">Create an account</a>
101 </form>
102 </body>
103 </html>
```

Sign-up Frontend development:

```

< signup.html x
CSE471 > templates > < signup.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4  <title>Signup Page</title>
5  <link rel="preconnect" href="https://fonts.gstatic.com" />
6  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css" />
7  <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@300;500;600&display=swap" rel="stylesheet" />
8  <!--Stylesheet-->
9  <style media="screen">
10  *,
11  *:before,
12  *:after {
13  padding: 0;
14  margin: 0;
15  box-sizing: border-box;
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1  {% extends "../base.html" %}
2  {% load static %}
3  {% block title %} Home {% endblock %}
4  {% block content %}
5
6      <input type="text" id="searchInput" onkeyup="searchCourses()" placeholder="Search for courses.." class="form-control mb-4">
7
8      <div class="text-center mb-4 text-info">Course List</div>
9      <div class="row">
10         {% for course in course %}
11             <div class="col-md-4 mb-4 course-block">
12                 <div class="card p-4 bg-light text-dark" style="width: 338px;">
13                     <p class="card-title text-info">Course Category: {{ course.category.name }}</p>
14                     <div class="course-info">
15                         <h5 class="card-text">Course Name: {{ course.name }}</h5>
16                     </div>
17                     <p class="card-text">Payment Category: {{ course.payment_category }}</p>
18                     <p class="card-text">Payment Amount: {{ course.payment_amount }}</p>
19                     <p class="card-text">Note: {{ course.note|default:"N/A" }}</p>
20                     {% if user.is_authenticated %}
21                     <a href="{% url 'book_course' course.id %}" class="btn btn-info text-white">Book Now</a>
22                     {% endif %}
23                 </div>
24             </div>
25         {% endfor %}
26     </div>
27
28     {% if user.is_authenticated %}
29     <a href="{% url 'dashboard' %}" class="btn btn-info text-white mb-2">Video Call Dashboard</a>
30     <a href="{% url 'studenthome' %}" class="btn btn-info text-white mb-2">Student Homepage</a>
31     <a href="{% url 'qa_page' %}" class="btn btn-info text-white mb-2">Post Q/A</a>
32     <a href="{% url 'payment_confirmation' %}" class="btn btn-info text-white mb-2">Payment</a></h3>
33     {% endif %}
34
35     {% if user.is_authenticated and user.is_staff %}
36     <a href="{% url 'add_course' %}" class="btn btn-info text-white mb-2">Add New Course</a>
37     <a href="{% url 'add_certificate' %}" class="btn btn-info text-white mb-2">Add Certificate</a>
38     <a href="{% url 'booking_list' %}" class="btn btn-info text-white mb-2">Booking list</a>
39     <a href="{% url 'add_studentcourse' %}" class="btn btn-info text-white mb-2">Add Student Course</a>
40     {% endif %}
41
42 </div>
43 </div>
44
45 <script>
46     function searchCourses() {
47         const searchInput = document.getElementById('searchInput');
48         const courseBlocks = document.querySelectorAll('.course-block');
49
50         const searchValue = searchInput.value.toLowerCase();
51
52         courseBlocks.forEach(function (block) {
53             const courseInfo = block.querySelector('.course-info').textContent.toLowerCase();
54
55             if (courseInfo.includes(searchValue)) {
56                 block.style.display = 'inline-block';
57             } else {
58                 block.style.display = 'none';
59             }
60         });
61     }
62 </script>
63
64 {% endblock %}
65
66
67
68
69

```

Student Homepage Frontend development:

```

studenthome.html X
CSE471 > templates > studenthome.html > div.container > div.row > div.col-md-16.mx-auto > div.card > div.card-body > p
19 <div class="card-body">
20 <p><strong>Username:</strong> {{ user }}</p>
21 <p><strong>Email:</strong> {{ email }}</p>
22 </div>
23 </div>
24
25 <div class="card">
26 <div class="card-header">
27 <h4 class="mb-0">Courses</h4>
28 </div>
29 <div class="card-body">
30 {% if user_courses %}
31 <p>User Courses Exist!</p>
32 {% for StudentCourse in user_courses %}
33 <p>
34     {{ StudentCourse.course_name }} - {{ StudentCourse.type_name }}
35     <a href="{{ StudentCourse.course_playlist }}" target="_blank">{{ StudentCourse.course_playlist }}</a>
36 </p>
37 {% endfor %}
38 {% else %}
39 <p>No body available.</p>
40 {% endif %}
41 </div>
42 </div>
43
44 <div class="card">
45 <div class="card-header">
46 <h4 class="mb-0">Courses Completed</h4>
47 </div>
48 <div class="card-body">
49 {% if user_certificates %}
50 <p>User Certificates Exist!</p>
51 {% for certificate in user_certificates %}
52 <p>
53     {{ certificate.course_name }} -
54     <a href="{ 'https://imgv2-1-f.scribdassets.com/img/document/486347529/original/206c4f828d/1698305021?v=1' }}" target="_blank">View Certificate</a>
55 </p>
56 {% endfor %}
57 {% else %}
58 <p>No certificates available.</p>
59 {% endif %}
60 </div>
61 </div>
62 </div>
63 </div>
64 </div>
65 {% endblock %}
66

```

Adding Course Frontend development:

```

CSE471 > templates > add_course.html > ...
1  {% extends "../base.html" %}
2  {% load static %}
3  {% block title %} Add Course {% endblock %}
4  {% block content %}
5
6      <style>
7          body {
8              display: flex;
9              align-items: center;
10             justify-content: center;
11             height: 100vh;
12             margin: 0;
13         }
14
15         .form-container {
16             width: 100%;
17             padding: 20px;
18             border: 1px solid #ccc;
19             border-radius: 5px;
20         }
21     </style>
22
23
24     <div class="form-container">
25         <h2>Add Course</h2>
26         (<a href="{% url 'add_category' %}">Add New Category</a>)
27         <form method="post">
28             {% csrf_token %}
29             {{ form.as_p }}
30             <button type="submit">Save Course</button>
31             <button> <a href="/">Home</a></button>
32         </form>
33     </div>
34 {% endblock %}

```

Add category Frontend development:

```

SE471 > templates > add_category.html > ...
1  {% extends "../base.html" %}
2  {% load static %}
3  {% block title %} Add Category {% endblock %}
4  {% block content %}
5      <style>
6          body {
7              display: flex;
8              align-items: center;
9              justify-content: center;
10             height: 100vh;
11             margin: 0;
12         }
13
14         .form-container {
15             width: 100%;
16             padding: 20px;
17             border: 1px solid #ccc;
18             border-radius: 5px;
19         }
20     </style>
21
22     <div class="form-container">
23         <h2>Add Category</h2>
24
25         <form method="post">
26             {% csrf_token %}
27             {{ form.as_p }}
28             <button type="submit">Save Category</button>
29             <button> <a href="/">Home</a></button>
30             <button> <a href="{% url 'add_course' %}">Retun Add Course</a></button>
31         </form>
32     </div>
33
34 {% endblock %}

```

Add Student course Frontend development:


```

st471 > templates > add_StudentCourse.html > ...
1  {% extends "../base.html" %} {% load static %} {% block title %} Add Student Course
2  {% endblock %} {% block content %}
3  <style>
4  body {
5      display: flex;
6      align-items: center;
7      justify-content: center;
8      height: 100vh;
9      margin: 0;
10 }
11
12 .form-container {
13     width: 100%;
14     padding: 20px;
15     border: 1px solid #ccc;
16     border-radius: 5px;
17 }
18 </style>
19
20
21 <div class="form-container">
22     <h2>Add Student Course</h2>
23
24     <form method="post" action="{% url 'add_StudentCourse' %}">
25         {% csrf_token %}
26         {{ form.as_p }}
27         <button type="submit">Add Student Course</button>
28     </form>
29 </div>
30 {% endblock %}

```

Dashboard Frontend development:

```

CSE471 > templates > dashboard.html > html
1  {% load static %}
2
3  <!DOCTYPE html>
4  <html lang="en">
5  <head>
6      <meta charset="UTF-8" />
7      <meta name="viewport" content="width=device-width, initial-scale=1.0" />
8      <meta http-equiv="X-UA-Compatible" content="ie=edge" />
9      <title>Video Conference</title>
10     <!-- Add Bootstrap CSS -->
11     <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
12     <link rel="stylesheet" href="{% static 'css/style.css' %}" />
13 </head>
14 <body>
15     <div class="container">
16         <div class="jumbotron mt-5">
17             <h1 class="display-4">Welcome, {{name}}!</h1>
18             <hr class="my-4">
19             <!-- create a "New Meeting" button -->
20             <a href="{% url 'meeting' %}" class="btn btn-primary btn-lg">New Meeting</a>
21             <a href="{% url 'join_room' %}" class="btn btn-success btn-lg">Join Meeting</a>
22             <a href="{% url 'logout' %}" class="btn btn-danger btn-lg">Logout</a>
23         </div>
24     </div>
25 </body>
26 </html>
27
28

```

Payment Frontend development:

```

CSE471 > templates > payment.html > ...
1  <!-- payment.html -->
2
3  <!DOCTYPE html>
4  <html lang="en">
5  <head>
6    <meta charset="UTF-8">
7    <meta name="viewport" content="width=device-width, initial-scale=1.0">
8    <title>Make Payment</title>
9  </head>
10 <body>
11   <h1>Make Payment</h1>
12   <form method="post" action="{% url 'process_payment' %}">
13     {% csrf_token %}
14     <p>Are you sure you want to add the course? A charge of $5 will be applied.</p>
15     <label for="confirmation_code">Enter 4-digit Confirmation Code:</label>
16     <input type="text" name="confirmation_code" required pattern="\d{4}" title="Enter a 4-digit number">
17     <button type="submit">Add Course</button>
18   </form>
19 </body>
20 </html>

```

Payment Success Frontend development:

```

CSE471 > templates > payment_success.html > html > head
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta name="viewport" content="width=device-width, initial-scale=1.0">
6    <title>Payment Success</title>
7
8    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css" integrity="
9  </head>
10 <body>
11   <div class="container mt-5">
12     <h2>Payment Successful</h2>
13     <p>Your payment has been successfully confirmed.</p>
14     <a href="{% url 'home' %}">Return to Home</a>
15   </div>
16 </body>
17 </html>

```

Payment Error Frontend development:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta name="viewport" content="width=device-width, initial-scale=1.0">
6    <title>Payment Error</title>
7
8    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css" integrity="
9  </head>
10 <body>
11   <div class="container mt-5">
12     <h2>Payment Error</h2>
13     <p>The confirmation code you entered is incorrect. Please try again.</p>
14     <a href="{% url 'home' %}">Return to Home</a>
15   </div>
16 </body>
17 </html>

```

Backend Development

- First we need to create an app. Create a model class if required for the feature in models.py and create a form in forms.py with the required fields.
- Next create functions in views.py where the logic is written. Add this view in the urls.py.
- We also need to connect every url from app to project level.
- Ensure the correct url is called in the template with which requests from users are binded with.

The backend for the feature- Certification has been shown.

Models.py

```
video_app > models.py > ...
1  from django.db import models
2  from django.contrib.auth.models import User
3  # Create your models here.
4
5  class Certificate(models.Model):
6      user = models.ForeignKey(User, on_delete=models.CASCADE)
7      course_name = models.CharField(max_length=255)
8
```

forms.py

```
video_app > forms.py > ...
1  from django import forms
2  from .models import Certificate
3
4  class CertificateForm(forms.ModelForm):
5      class Meta:
6          model = Certificate
7          fields = ['user', 'course_name']
8
```

views.py ('video_app' app)

```

views.py x urls.py models.py
video_app > views.py > add_certificate
24
25 @user_passes_test(lambda u: u.is_staff)
26 def add_certificate(request):
27     if request.method == 'POST':
28         form = CertificateForm(request.POST)
29         if form.is_valid():
30             certificate = form.save()
31             return redirect('/admin')
32     else:
33         form = CertificateForm()
34
35     return render(request, 'add_certificate.html', {'form': form})
36
37

```

views.py ('education' app)

```

views.py video_app x urls.py views.py education x models.py
education > views.py > StudentHome
88 def CourseDetails03(request):
89     return render(request, "coursedetails03.html")
90
91 def StudentHome(request):
92     user_certificates = Certificate.objects.filter(user=request.user)
93     return render(request, "studenthome.html", {'email': request.user.email, 'user_certificates': user_certificates})
94
95
96
97 #Post Q&A Part
98 questions = []
99
100 def qa_page(request):
101     global questions

```

urls.py ('video_app')

```

views.py urls.py x models.py
video_app > urls.py > ...
1 from django.urls import path
2 from . import views
3
4 urlpatterns = [
5     path('dashboard/', views.dashboard, name='dashboard'),
6     path('meeting/', views.videocall, name='meeting'),
7     path('join/', views.join_room, name='join_room'),
8     path('add_certificate/', views.add_certificate, name='add_certificate'),
9     # path('pdf_view/', views.pdf_view, name='pdf_view'),
10 ]
11

```

urls.py ('core')

```
views.py  urls.py core  urls.py video_app  models.py
core > urls.py > ...
14     1. Import the include() function: from django.urls import include, path
15     2. Add a URL to urlpatterns: path('blog/', include('blog.urls'))
16     """
17     from django.contrib import admin
18     from django.urls import path, include
19
20     urlpatterns = [
21         path('admin/', admin.site.urls),
22         path('', include('account.urls')),
23         path('', include('education.urls')),
24         path('', include('video_app.urls')),
25     ]
26
```

template

```
views.py  urls.py  dj add_certificate.html  models.py
templates > dj add_certificate.html
17     }
18 </style>
19
20 <div class="form-container">
21     <h2>Add Certificate</h2>
22
23     <form method="post" action="{% url 'add_certificate' %}">
24         {% csrf_token %} {{ form.as_p }}
25         <button type="submit">Add Certificate</button>
26     </form>
27 </div>
28
29 {% endblock %}
30
```

Similarly, we have below all the backend codes shown below:

Account views, consisting of Homepage, Signup page, login page and logout page

```
account > views.py
1  from django.shortcuts import render, HttpResponseRedirect, redirect
2  from django.contrib.auth.models import User
3  from django.contrib.auth import authenticate, login, logout
4  from django.contrib.auth.decorators import login_required
5  # Create your views here.
6
7
8  @login_required(login_url='login')
9  def HomePage(request):
10     return render(request, "home.html")
11
12
13  def SignupPage(request):
14     if request.method == 'POST':
15         uname = request.POST.get('username')
16         email = request.POST.get('email')
17         pass1 = request.POST.get('password1')
18         pass2 = request.POST.get('password2')
19         # print(uname, email, pass1, pass2)
20
21         if pass1 != pass2:
22             return HttpResponseRedirect("Your password and confirm password are not Same!!")
23         else:
24             my_user = User.objects.create_user(uname, email, pass1)
25             my_user.save()
26             return redirect('login')
27
28     return render(request, "signup.html")
29
30
31  def LoginPage(request):
32     if request.method == 'POST':
33         username = request.POST.get('username')
34         pass1 = request.POST.get('pass')
35         user = authenticate(request, username=username, password=pass1)
36         if user is not None:
37             login(request, user)
38             return redirect('home')
39         else:
40             return HttpResponseRedirect("Username or Password is incorrect!!!")
41
42     return render(request, "login.html")
43
44
45  def LogoutPage(request):
46     logout(request)
47     return redirect('login')
```

Admin.py for education app

```
from django.contrib import admin
from .models import Category, Course, Booking, VisitorNotification
# Register your models here.

admin.site.register([Category, Course, Booking, VisitorNotification])
```

Admin.py for Education app

```
education > admin.py
1  from django.contrib import admin
2  from .models import Category, Course, Booking
3  # Register your models here.
4
5  admin.site.register([Category, Course, Booking])
6
```

Apps.py for Education app

```
education > apps.py
1  from django.apps import AppConfig
2
3
4  class EducationConfig(AppConfig):
5      default_auto_field = 'django.db.models.BigAutoField'
6      name = 'education'
7
```

All url connections for Education app

```
education > urls.py
1  from django.urls import path
2  from . import views
3
4  urlpatterns = [
5      path('', views.home, name='home'),
6      path('add_category/', views.add_category, name='add_category'),
7      path('add_course/', views.add_course, name='add_course'),
8      path('book_course/<int:course_id>/', views.book_course, name='book_course'),
9      path('booking_list/', views.booking_list, name='booking_list'),
10     path('studenthome/', views.StudentHome, name='studenthome'),
11     path('qa_page/', views.qa_page, name='qa_page'),
12     path('coursedetails01/', views.CourseDetails01, name='coursedetails01'),
13     path('coursedetails02/', views.CourseDetails02, name='coursedetails02'),
14     path('coursedetails03/', views.CourseDetails03, name='coursedetails03'),
15     path('payment_confirmation/', views.payment_confirmation, name='payment_confirmation'),
16     path('confirm_payment/', views.confirm_payment, name='confirm_payment'),
17     path('payment_success/', views.payment_success, name='payment_success'),
18     path('payment_error/', views.payment_error, name='payment_error'),
19
20 ]
21
```

Forms.py for Education app


```

education > forms.py
1  from .models import Category, Course, Booking
2  from django import forms
3  from django.contrib.auth.models import User
4
5
6  class AddCategory(forms.ModelForm):
7      class Meta:
8          model = Category
9          fields = ['name']
10
11     def save(self, commit=True):
12         instance = super(AddCategory, self).save(commit=False)
13         instance.user = User.objects.get(username='admin')
14         if commit:
15             instance.save()
16         return instance
17
18
19     class AddCourse(forms.ModelForm):
20         class Meta:
21             model = Course
22             fields = ['category', 'name',
23                     'payment_category', 'payment_amount', 'note']
24
25
26     class BookingForm(forms.ModelForm):
27         class Meta:
28             model = Booking
29             fields = ['note']
30

```

Models.py for Education app

```

education > models.py
1  from django.db import models
2  from django.contrib.auth.models import User
3
4  # Create your models here.
5
6
7  class Category(models.Model):
8      user = models.ForeignKey(User, on_delete=models.CASCADE)
9      name = models.CharField(max_length=90)
10
11     class Meta:
12         verbose_name_plural = 'categories'
13
14     def __str__(self):
15         return self.name
16
17
18     class Course(models.Model):
19
20         CHOICE_ONE = 'Free'
21         CHOICE_TWO = 'Paid'
22
23         YOUR_CHOICES = [
24             (CHOICE_ONE, 'Free'),
25             (CHOICE_TWO, 'Paid'),
26         ]
27
28         category = models.ForeignKey(Category, on_delete=models.CASCADE)
29         name = models.CharField(max_length=90)
30         payment_category = models.CharField(
31             max_length=10, choices=YOUR_CHOICES, default=CHOICE_ONE,)
32         payment_amount = models.DecimalField(max_digits=10, decimal_places=2)
33         note = models.TextField(null=True, blank=True)
34
35         class Meta:
36             verbose_name_plural = 'Courses'
37
38         def __str__(self):
39             return self.name
40
41
42     class Booking(models.Model):
43         user = models.ForeignKey(User, on_delete=models.CASCADE)
44         course = models.ForeignKey(Course, on_delete=models.CASCADE)
45         note = models.TextField(null=True, blank=True)
46
47         def __str__(self):
48             return f"{self.user.username} - {self.course.name}"
49
50
51     class Adding(models.Model):
52         user = models.ForeignKey(User, on_delete=models.CASCADE)
53         course = models.ForeignKey(Course, on_delete=models.CASCADE)
54
55         def __str__(self):
56             return f"{self.user.username} - {self.course.name}"
57

```

```

class Meta:
    verbose_name_plural = 'Courses'

    def __str__(self):
        return self.name

class Booking(models.Model):
    user = models.ForeignKey(User, on_delete=models.CASCADE)
    course = models.ForeignKey(Course, on_delete=models.CASCADE)
    note = models.TextField(null=True, blank=True)

    def __str__(self):
        return f"{self.user.username} - {self.course.name}"

class VisitorNotification(models.Model):
    notification = models.CharField(max_length=1000)

    def __str__(self):
        return self.notification

```

Activate Windows
Go to Settings to activate

View.py for education app

```
education > views.py
1  from django.shortcuts import render, redirect
2  from .models import Category, Course, Booking
3  from .forms import AddCategory, AddCourse, BookingForm
4  from django.contrib.auth.decorators import login_required
5  from video_app.models import Certificate, StudentCourse
6
7  # Create your views here.
8
9
10 def home(request):
11     category = Category.objects.all()
12     course = Course.objects.all()
13     context = {
14         'category': category,
15         'course': course,
16     }
17     return render(request, 'home.html', context)
18
19
20 def add_category(request):
21     if request.method == 'POST':
22         form = AddCategory(request.POST)
23         if form.is_valid():
24             form.save()
25             return redirect('add_course')
26     else:
27         form = AddCategory()
28
29     context = {
30         'form': form,
31     }
32     return render(request, 'add_category.html', context)
```

```
education > views.py
35 def add_course(request):
36     if request.method == 'POST':
37         form = AddCourse(request.POST)
38         if form.is_valid():
39             form.save()
40             return redirect('/')
41     else:
42         form = AddCourse()
43
44     context = {
45         'form': form,
46     }
47     return render(request, 'add_course.html', context)
48
49
50 @login_required
51 def book_course(request, course_id):
52     course = Course.objects.get(id=course_id)
53
54     if request.method == 'POST':
55         form = BookingForm(request.POST)
56         if form.is_valid():
57             booking = form.save(commit=False)
58             booking.user = request.user
59             booking.course = course
60             booking.save()
61             return redirect('home')
62     else:
63         form = BookingForm()
64
65     context = {
66         'form': form,
67         'course': course
```

```

education > views.py
67         'course': course,
68     }
69     return render(request, 'book_course.html', context)
70
71
72 def booking_list(request):
73     booking = Booking.objects.all()
74     return render(request, 'booking.html', {'booking': booking})
75
76 def DisplayCoursesPage(request):
77     return render(request, "displaycourses.html")
78
79 def CourseDetails01(request):
80     return render(request, "coursedetails01.html")
81
82 def CourseDetails01(request):
83     return render(request, "coursedetails01.html")
84
85 def CourseDetails02(request):
86     return render(request, "coursedetails02.html")
87
88 def CourseDetails03(request):
89     return render(request, "coursedetails03.html")
90
91 def StudentHome(request):
92     user_certificates = Certificate.objects.filter(user=request.user)
93     user_courses = StudentCourse.objects.filter(user=request.user)
94     user_course_playlist = StudentCourse.objects.filter(user=request.user)
95     user_type_name = StudentCourse.objects.filter(user=request.user)
96     return render(request, "studenthome.html", {'email': request.user.email, 'user_certificates': user_certificates,
97         'user_courses': user_courses, 'user_course_playlist': user_course_playlist, 'user_type_name': user_type_name, })
98

```

```

education > views.py
101 questions = []
102
103 def qa_page(request):
104     global questions
105
106     if request.method == 'POST':
107         if 'question_text' in request.POST:
108             #posting a new question
109             question_text = request.POST.get('question_text')
110             questions.append({'question_text': question_text, 'answers': []})
111             return redirect('qa_page')
112         elif 'answer_text' in request.POST:
113             #posting an answer
114             answer_text = request.POST.get('answer_text')
115             question_id = int(request.POST.get('question_id'))
116             questions[question_id]['answers'].append(answer_text)
117             return redirect('qa_page')
118
119
120     questions_data = [{'index': idx, 'question_text': question['question_text']} for idx, question in enumerate(questions)]
121
122     return render(request, 'qa_page.html', {'questions_data': questions_data, 'questions': questions})
123
124
125     # payment by code
126 def payment_confirmation(request):
127     return render(request, 'payment_confirmation.html')
128
129 def confirm_payment(request):
130     if request.method == 'POST':
131
132         secret_code = '5678' # replacable code

```

```

education > views.py
119
120     questions_data = [{'index': idx, 'question_text': question['question_text']} for idx, question in
121     enumerate(questions)]
122
123     return render(request, 'qa_page.html', {'questions_data': questions_data, 'questions': questions})
124
125
126     # payment by code
127 def payment_confirmation(request):
128     return render(request, 'payment_confirmation.html')
129
130 def confirm_payment(request):
131     if request.method == 'POST':
132
133         secret_code = '5678' # replacable code
134         confirmation_code = request.POST.get('confirmation_code')
135         if confirmation_code == secret_code:
136             return redirect('payment_success')
137         else:
138             return redirect('payment_error')
139     return redirect('payment_confirmation')
140
141 def payment_success(request):
142     return render(request, 'payment_success.html')
143
144 def payment_error(request):
145     return render(request, 'payment_error.html')
146

```

Student homepage video app views (after adding courses)

```

@user_passes_test(lambda u: u.is_staff)
def add_StudentCourse(request):
    if request.method == 'POST':
        form = StudentCourseForm(request.POST)
        if form.is_valid():
            StudentCourse = form.save()
            return redirect('/home')
    else:
        form = StudentCourseForm()

    return render(request, 'add_StudentCourse.html', {'form': form})

```

Modules.py

```

class StudentCourse(models.Model):
    user = models.ForeignKey(User, on_delete=models.CASCADE)
    course_name = models.CharField(max_length=255)
    type_name = models.CharField(max_length=255, default='')
    course_playlist = models.CharField(max_length=255, default='')

```

forms.py

```

class StudentCourseForm(forms.ModelForm):
    class Meta:
        model = StudentCourse
        fields = ['user', 'course_name', 'course_playlist', 'type_name']

```


Technology (Framework, Languages)

Framework: Django.

Languages: Python, HTML, CSS, Javascript.

Github Repository

Link: <https://github.com/Adnan-Sami-CSE/CSE471-Project-OpportuLearn>

Individual Contribution

ID	Name	Contribution
19301170	Progya Talukder Phul	Student sign up authentication, Forget Password.
20201216	Nabila Samroj Oishe	Display courses,Categories for courses (paid/unpaid; subject levels), Admin can view all booking profile lists , Admin course management(Booking ,add and delete course and categories) , Admin can manage user profiles(add, delete profiles), Visitor notification, Admin payment verification.
20201011	Adnan Sami	User Login and LogOut, User Registration, Admin Registration, Search Courses, Course videos ,User Payment, User forum Q/A (frontend), Course videos and notes, Admin manage+add+view user(via django admin), admin payment view(via django admin)
20101262	Pratick Bhowmick	Live Streaming, Certification, User forum Q/A (backend), Admin manage user forum.