



**AISSMS**  
**INSTITUTE OF INFORMATION TECHNOLOGY**  
ADDING VALUE TO ENGINEERING



Department of Computer Engineering

A Mini Project Report (PDL-2)

“EDUCONNECT A TUTOR SERVICE PORTAL”

SUBMITTED TO THE DEPARTMENT OF COMPUTER ENGINEERING

AISSMS IOIT

*S. Y. BTech Engineering*

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## **Chapter-1: ABSTRACT**

### **1.1) Context:**

EDUCONNECT project revolves around addressing the growing demand for personalized and convenient educational support for students across various academic levels and subjects. With advancements in technology and changes in learning preferences, there is an increasing need for platforms that connect students with qualified tutors who can offer tailored assistance both in-person and online. The project aims to bridge the gap between students seeking academic guidance and experienced tutors by providing a centralized platform where they can easily connect and collaborate. This platform caters to students ranging from class 1 to 12, covering a wide range of subjects including mathematics, science, languages, and social sciences. Additionally, it extends its services to cater to students preparing for competitive exams such as engineering (JEE), medical (NEET), and others. Through the home tutor portal, students can access a diverse pool of tutors who have been thoroughly vetted and possess expertise in their respective subjects. The portal offers features such as user-friendly interface, interactive learning tools, personalized learning plans, progress tracking, secure communication channels, flexible scheduling, and customer support. Overall, the context for the home tutor portal project lies in facilitating convenient, effective, and personalized learning experiences for students while providing opportunities for qualified tutors to share their knowledge and expertise in a flexible manner.

## **1.2) Problem Statement:**

"In today's educational landscape, students often struggle to find reliable and qualified tutors who can offer personalized academic support tailored to their individual needs. Traditional methods of finding tutors, such as word-of-mouth referrals or local advertisements, are often inefficient and limited in scope. Additionally, with the increasing demand for online learning solutions, there is a lack of centralized platforms that seamlessly connect students with qualified tutors for both in-person and virtual tutoring sessions. This presents a significant challenge for students seeking academic assistance across various subjects and grade levels, as well as for tutors looking to expand their reach and connect with students beyond their local area.

Therefore, there is a pressing need to develop a comprehensive home tutor portal that addresses these challenges by providing a centralized platform where students can easily search for and connect with qualified tutors for personalized academic support. This platform should offer features such as user-friendly interface, interactive learning tools, personalized learning plans, progress tracking, secure communication channels, flexible scheduling, and customer support. By addressing these needs, the home tutor portal aims to facilitate convenient, effective, and personalized learning experiences for students while providing opportunities for qualified tutors to showcase their expertise and connect with a wider student base."

### **1.3) Objective:**

1. Provide a centralized platform that seamlessly connects students with qualified tutors for personalized academic support across various subjects and grade levels, including class 1 to 12 curriculum and competitive exams like engineering (JEE), medical (NEET), etc.
2. Offer a user-friendly interface that enables easy navigation and search functionalities, allowing students to find tutors based on their specific requirements and preferences.
3. Facilitate both in-person and online tutoring sessions, leveraging interactive learning tools and communication channels to enhance the learning experience for students and tutors alike.
4. Ensure the quality of tutoring services by implementing a rigorous screening process to onboard experienced and qualified tutors, along with features for progress tracking, feedback mechanisms, and customer support.
5. Customize learning plans based on the individual needs and learning styles of students, allowing tutors to adapt their teaching strategies accordingly and support students in achieving their academic goals.
6. Enable flexible scheduling options to accommodate students' availability and preferences, while also providing secure communication channels to safeguard sensitive information and maintain privacy.
7. Promote accessibility and inclusivity by catering to the diverse needs of students from different backgrounds and educational requirements, thereby democratizing access to quality educational support.
8. Continuously improve the platform based on user feedback and technological advancements, ensuring that it remains a reliable and effective solution for connecting students with qualified tutors in the ever-evolving educational landscape.

## **Chapter-2**

### **DESCRIPTION**

EDUCONNECT serves as a comprehensive online platform designed to facilitate personalized academic support for students across various educational levels and subjects. It aims to bridge the gap between students seeking academic assistance and qualified tutors who can provide tailored guidance and instruction. The portal encompasses features and functionalities tailored to meet the diverse needs of both students and tutors, fostering seamless collaboration and learning experiences.

#### **1. User-friendly Interface:**

The portal boasts an intuitive and user-friendly interface that enables easy navigation for both students and tutors. A clean layout with clear categorization allows users to quickly find the information they need and access relevant features.

#### **2. Comprehensive Subject Coverage:**

Covering a wide range of subjects including mathematics, science, languages, social sciences, and more, the portal caters to the academic needs of students from class 1 to 12. Additionally, it offers support for competitive exams such as engineering (JEE), medical (NEET), and others, ensuring comprehensive coverage of educational requirements.

#### **3. Qualified Tutors:**

Tutors undergo a stringent screening process to ensure they possess the necessary qualifications, expertise, and experience in their respective subjects. Background checks and verification of academic credentials are conducted to maintain the quality of tutoring services offered through the platform.

#### **4. Interactive Learning Tools:**

The portal integrates a variety of interactive learning tools to enhance the learning experience. Features such as virtual whiteboards, video conferencing, screen sharing, and collaborative document editing facilitate effective online tutoring sessions and engagement between students and tutors.

#### **5. Personalized Learning Plans:**

Tutors have the flexibility to create personalized learning plans tailored to the individual needs and learning styles of students. This customization allows tutors to address specific learning objectives, provide targeted support, and adapt teaching strategies to maximize student learning outcomes.

#### **6. Progress Tracking:**

The portal includes features for tracking student progress, such as assessments, quizzes, and performance analytics. Tutors can monitor student performance, identify areas for improvement, and adjust teaching strategies accordingly to ensure continuous academic growth.

#### **7. Secure Communication:**

To safeguard sensitive information and maintain privacy, the portal provides secure communication channels between tutors and students. Encryption protocols and data protection measures are implemented to ensure the confidentiality of interactions and personal information.

#### 8. Flexible Scheduling:

Students have the flexibility to schedule tutoring sessions based on their availability and preferences. Calendar integration and reminder notifications help students and tutors stay organized and ensure timely sessions.

#### 9. Feedback and Reviews:

Students have the opportunity to provide feedback and reviews for tutors based on their learning experience. This feedback mechanism helps maintain accountability and improve the overall quality of tutoring services offered through the platform.

#### 10. Customer Support:

Dedicated customer support is available to address any issues or concerns raised by students or tutors. Assistance with technical troubleshooting, billing queries, and other related matters ensures a smooth user experience for all stakeholders.

Overall, the home tutor portal project aims to revolutionize the way students access academic support by providing a centralized platform that connects them with qualified tutors for personalized learning experiences. By leveraging technology and innovation, the portal empowers students to achieve their academic goals and fosters a conducive environment for learning and educational growth.



## **Chapter-3: SOFTWARE REQUIREMENTS**

- 1. HTML (Hypertext Markup Language):**
  - Utilize HTML to create the structure and content of the web pages. HTML provides the basic building blocks for displaying text, images, forms, and other multimedia elements on the website.
- 2. CSS (Cascading Style Sheets):**
  - Apply CSS for styling and formatting the HTML elements, including fonts, colors, layouts, and animations. CSS allows for the customization of the website's appearance to enhance visual appeal and user experience.
- 3. Responsive Design Techniques:**
  - Implement responsive design techniques using CSS media queries and flexible layouts to ensure the website adapts smoothly to different screen sizes and devices. Ensure a consistent user experience across desktops, tablets, and smartphones.
- 4. Cross-Browser Compatibility:**
  - Ensure cross-browser compatibility by testing the website's functionality and appearance across popular web browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge. Use vendor prefixes and fallbacks to address browser-specific issues.
- 5. Semantic HTML Markup:**
  - Use semantic HTML5 elements (e.g., <header>, <nav>, <section>, <article>, <footer>) to enhance the website's structure, accessibility, and search engine optimization (SEO). Semantic markup improves code readability and helps search engines better understand the content.
- 6. Progressive Enhancement:**
  - Apply progressive enhancement principles to build a website that works on all devices and browsers, regardless of their capabilities. Start with a solid foundation of HTML and CSS, then layer on JavaScript enhancements for users with modern browsers.
- 7. Code Organization and Maintainability:**
  - Organize the codebase into modular components and files for better maintainability and scalability. Use a consistent naming convention, folder structure, and commenting to improve code readability and collaboration among developers.

## 8. Java :

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture. Java is a technology consisting of both a programming language and a software platform. Java bytecode runs without modification on any system that supports JVMs, allowing your Java code to be run anywhere. The Java software platform consists of the JVM, the Java API, and a complete development environment.

### MySQL

MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. Controls and wizards are available for users to:

- Create and compact database files
- Create, define, modify and delete tables
- Create, define, and delete indexes
- Browse, edit, add, and delete records
- Search records
- Import and export records as text
- Import and export tables from/to CSV files
- Import and export databases from/to SQL dump files
- Issue SQL queries and inspect the results.

## **Chapter 4:**

### **ALGORITHMS**

#### **1. User Authentication and Authorization:**

- Implement a user authentication system to allow students and tutors to register and log in to their accounts securely.
- Create user roles (student, tutor) and set up authorization mechanisms to restrict access to certain features based on user roles.

#### **2. User Profile Management:**

- Develop functionalities for users to create and manage their profiles, including personal information, academic background, subjects of expertise (for tutors), and preferences.
- Allow users to upload profile pictures and other relevant documents (e.g., certificates, academic transcripts).

#### **3. Search and Matching Algorithm:**

- Design a search algorithm that enables students to search for tutors based on criteria such as subject, grade level, availability, location (for in-person tutoring), and ratings/reviews.
- Implement a matching algorithm that suggests relevant tutors to students based on their search criteria and preferences.

#### **4. Booking and Scheduling System:**

- Develop a booking system that allows students to schedule tutoring sessions with their chosen tutors.
- Implement a calendar-based scheduling interface where tutors can set their availability and students can book slots accordingly.
- Send confirmation notifications and reminders to both students and tutors for upcoming tutoring sessions.

#### 5. Virtual Classroom and Communication Tools:

- Integrate virtual classroom functionalities, such as interactive whiteboards, video conferencing, screen sharing, and chat features, for online tutoring sessions.
- Ensure seamless communication between students and tutors during tutoring sessions, allowing for real-time interaction and collaboration.

#### 6. Payment Gateway Integration:

- Integrate a payment gateway to facilitate secure online transactions for booking tutoring sessions.
- Implement features for students to make payments for tutoring services and for tutors to receive payments securely.

#### 7. Feedback and Rating System:

- Develop a feedback and rating system where students can provide feedback and ratings for tutors based on their tutoring experience.
- Display tutor ratings and reviews to help students make informed decisions when choosing tutors.

#### 8. Progress Tracking and Reporting:

- Create functionalities for tutors to track students' progress, including assessments, quizzes, and performance analytics.
- Generate reports on students' progress and areas for improvement to guide tutoring sessions effectively.

#### 9. Security Measures:

- Implement security measures to protect user data, including encryption protocols, secure authentication mechanisms, and data privacy policies compliant with relevant regulations.

#### 10. Scalability and Performance Optimization:

- Design the codebase with scalability in mind to accommodate a growing user base and increasing traffic.
- Optimize code performance and database queries to ensure fast response times and smooth user experience.

#### 11. Testing and Quality Assurance:

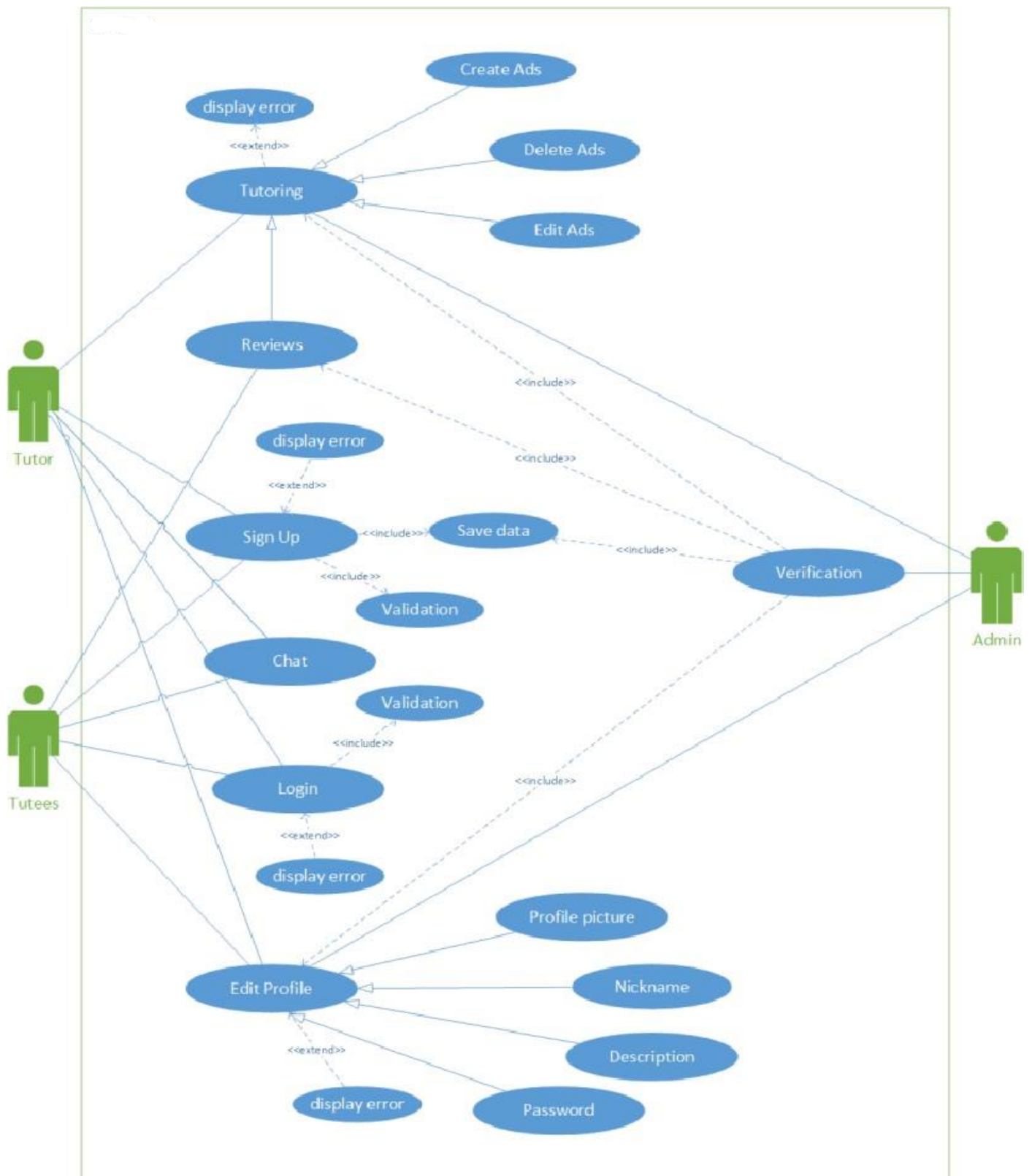
Conduct thorough testing, including unit testing, integration testing, and user acceptance testing, to identify and address any bugs or issues.

Ensure the codebase meets quality standards and is robust enough to handle various scenarios and edge cases.

#### 12. Documentation and Maintenance:

- Document the codebase, including code comments, API documentation, and user guides, to facilitate future maintenance and updates.
- Establish a maintenance plan to address bug fixes, feature enhancements, and system updates regularly.

This algorithm outlines the key steps involved in developing the code for the home tutor portal project. Each component requires careful planning, design, and implementation to create a robust and user-friendly platform that meets the needs of both students and tutors.



## Chapter 5: PSEUDOCODE

### **For registration:**

1. Check if form is submitted.
2. Retrieve user input: name, email, passwords, and image.
3. Sanitize user input.
4. Check if email is already in use in the database.
5. If email is unique and passwords match:
  6. Generate unique ID.
  7. Hash password.
  8. Insert user data into the database.
  9. Set user identification cookie.
10. Redirect to home page.

### **For login:**

```
<?php

function register_user($name, $email, $password, $image) {

    // Sanitize input data

    // Check if email is unique

    // Hash password

    // Upload image

    // Insert user data into the database

    // Set user identification cookie

}
```

## **Tutor search Page:**

1. Check if user is authenticated by retrieving user ID from cookie.
2. If user is authenticated, set \$user\_id to the retrieved user ID, else set it to an empty string.
3. Display HTML structure including metadata, CSS, and JavaScript links.
4. Include user header component.
5. Display a form for searching tutors.
6. Upon form submission, fetch tutors matching the search query from the database.
7. For each tutor found, display their information and statistics (playlists, videos, likes, comments).
8. Provide a button to view the tutor's profile.
9. Include a footer component.
10. Link to a JavaScript file for additional functionality.

## **ABOUT US:**

1. Include 'connect.php' for database connection.
2. Check if user is authenticated using a cookie.
3. Display HTML structure with metadata, CSS, and JavaScript links.
4. Include user header component.
5. Display 'about' section with team information and reasons to choose the service.
6. Display statistics about online courses, students, and teachers.
7. Display 'student's reviews' section with testimonials and star ratings.
8. Include footer component.
9. Link to custom JavaScript file for additional functionality.

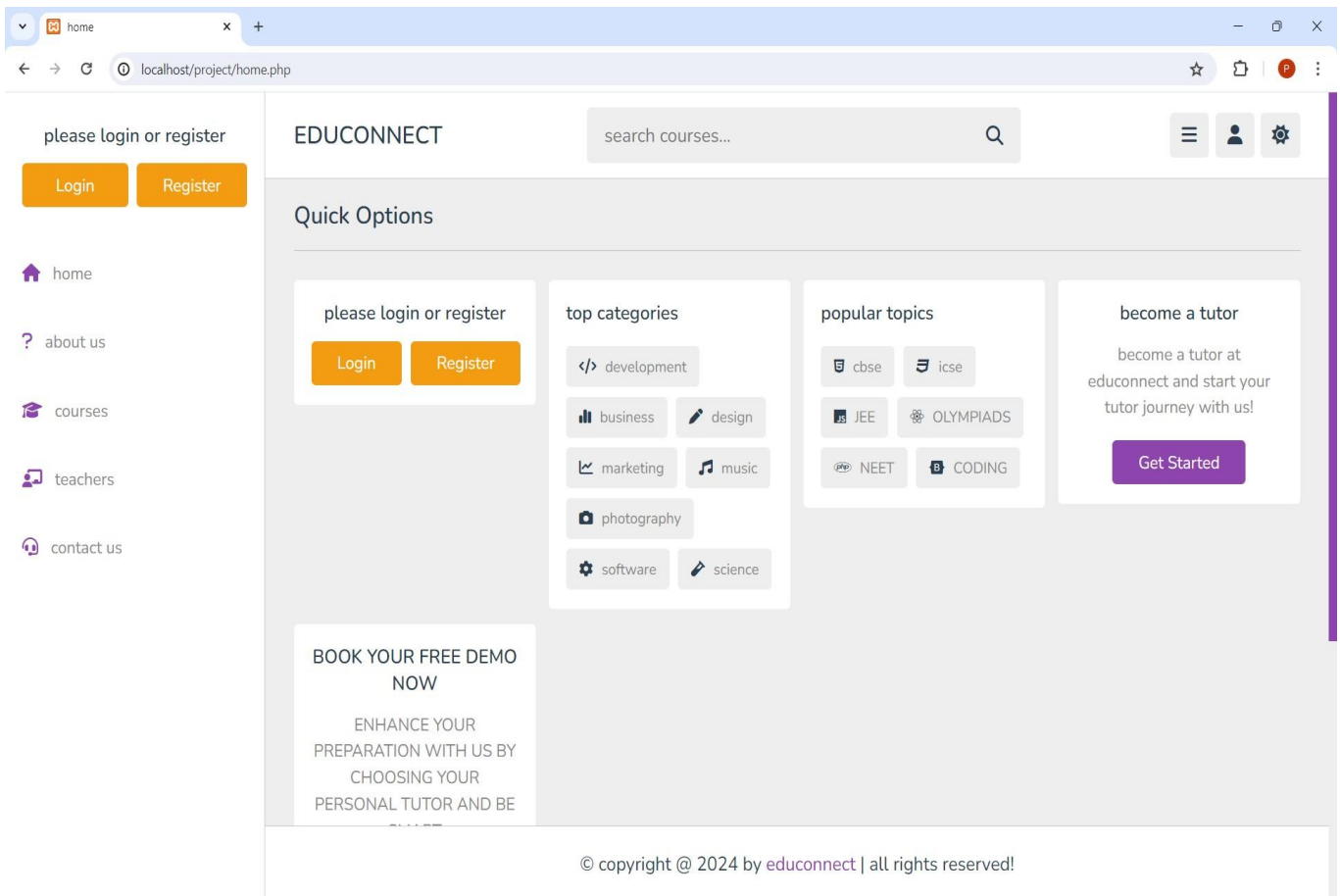


## **CONTACT US:**

1. Include 'connect.php' for database connection.
2. Check if user is authenticated using a cookie.
3. If form is submitted:
  - a. Sanitize and retrieve form data for name, email, number, and message.
  - b. Check if the same message exists in the database.
  - c. If message doesn't exist, insert the message into the database; otherwise, display a message indicating that the message has already been sent.
4. Display HTML structure with metadata, CSS, and JavaScript links.
5. Include user header component.
6. Display 'contact' section with a form for users to enter their details and message.
7. Display contact information including phone number, email address, and office address.
8. Include footer component.
9. Link to custom JavaScript file for additional functionality.

## Chapter 6: SCREENSHOTS

### Home Page



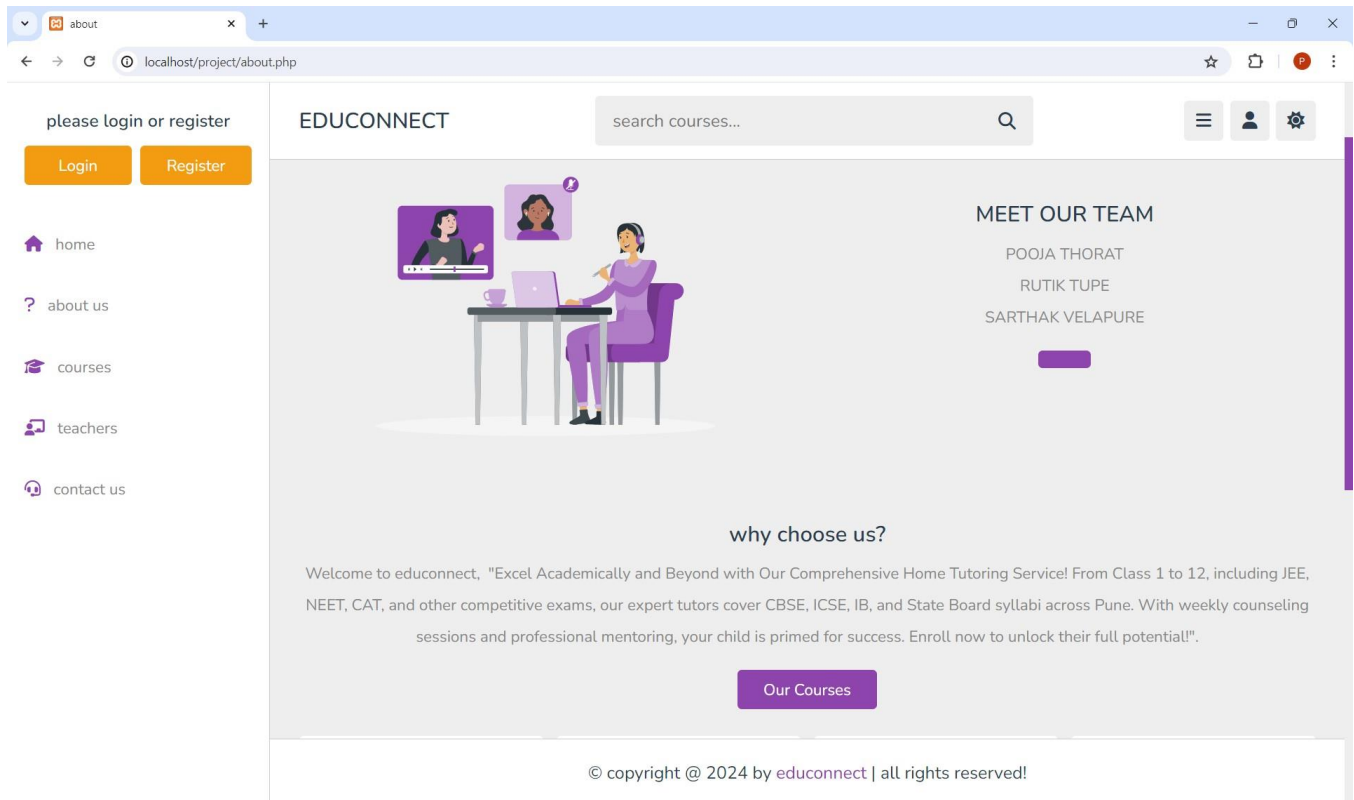
## Student registration page:

The screenshot shows a web browser window with the URL `localhost/project/register.php`. The page features a sidebar on the left with a navigation menu: 'home', 'about us', 'courses', 'teachers', and 'contact us'. At the top of the sidebar, there are buttons for 'Login' and 'Register'. The main content area is titled 'EDUCONNECT' and includes a search bar labeled 'search courses...'. Below the search bar, there is a 'Create Account' form. The form contains the following fields: 'your name \*' (with placeholder 'enter your name'), 'your password \*' (with placeholder 'enter your password'), 'your email \*' (with placeholder 'enter your email'), 'confirm password \*' (with placeholder 'confirm your password'), and 'select pic \*' (with a 'Choose File' button and 'No file chosen' text). Below these fields, there is a link 'already have an account? login now' and a large purple 'Register Now' button. At the bottom of the page, there is a copyright notice: '© copyright @ 2024 by educonnect | all rights reserved!'.

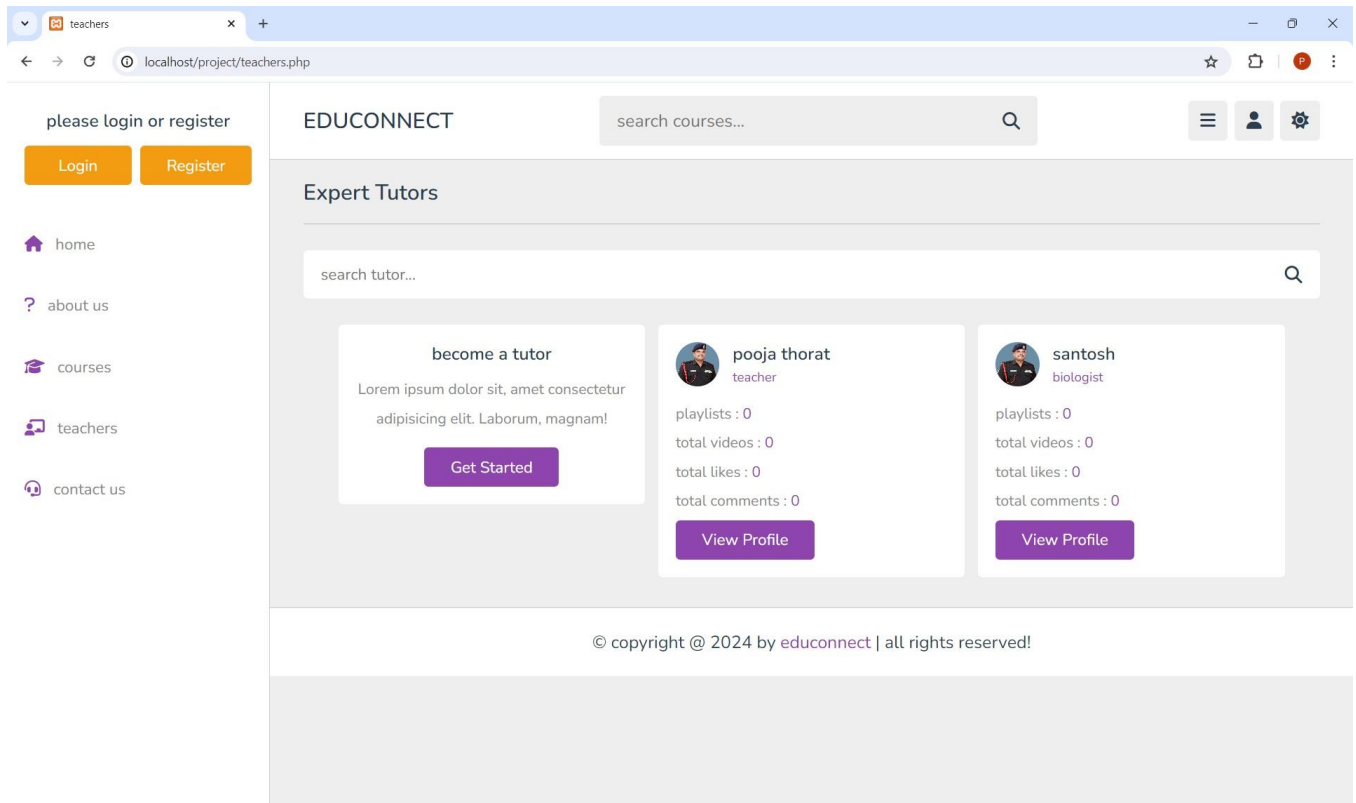
## Student Log in Page:

The screenshot shows a web browser window with the URL `localhost/project/login.php`. The page layout is consistent with the registration page, featuring the same sidebar with navigation links and 'Login'/'Register' buttons. The main content area is titled 'EDUCONNECT' and includes the same search bar. Below the search bar, there is a 'Welcome Back!' login form. The form contains the following fields: 'your email \*' (with placeholder 'enter your email') and 'your password \*' (with placeholder 'enter your password'). Below these fields, there is a link 'don't have an account? register now' and a large purple 'Login Now' button. At the bottom of the page, there is a copyright notice: '© copyright @ 2024 by educonnect | all rights reserved!'.

## About us:



## Faculty Portal Page



## Contact us:

contact

localhost/project/contact.php

please login or register

Login Register

home

about us

courses

teachers

contact us

EDUCONNECT

search courses...

get in touch

enter your name


enter your email

enter your number

enter your message

Send Message

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contact

localhost/project/contact.php

please login or register

Login Register

home

about us

courses

teachers

contact us

EDUCONNECT

search courses...

enter your number

enter your message

Send Message

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## **Chapter 7:** **ADVANTAGES & DISADVANTAGES**

### **Advantages of the System:**

EDUCONNECT Home tutor and online tutor service providing portals offer several advantages for students, particularly those in classes 1<sup>ST</sup> -12<sup>TH</sup> and preparing for competitive exams like JEE, NEET, and others:

1. **Personalized Attention:** Both home tutors and online tutors can provide personalized attention to students, catering to their individual learning needs and pace. This personalized approach can lead to better understanding and improved academic performance.
2. **Convenience:** These services offer convenience by allowing students to learn from the comfort of their homes. This eliminates the need for travel, saving time and energy for both students and parents.
3. **Flexibility:** Tutors can adapt their teaching methods and schedules to suit the student's availability and learning style. This flexibility enables students to balance their academic studies with other activities.
4. **Accessibility to Quality Education:** Especially for students preparing for competitive exams, access to quality education and expert guidance is crucial. Home tutor and online tutor services connect students with experienced tutors who can provide in-depth knowledge and exam-specific strategies.
5. **Wide Range of Subjects and Exams:** These services often offer a wide range of subjects and cater to various exams, including school curriculum from class 1 to 12, as well as competitive exams like JEE, NEET, and others. This ensures that students can find assistance for their specific academic needs.
6. **Technology Integration:** Online tutor services leverage technology to provide interactive learning experiences through video conferencing, digital whiteboards, and multimedia resources. This tech integration enhances the learning process and makes it more engaging for students.
7. **Regular Assessment and Feedback:** Tutors typically provide regular assessments and feedback to track the student's progress and identify areas for improvement. This helps students stay on track with their studies and allows for timely intervention if needed.
8. **Cost-effectiveness:** In some cases, home tutor and online tutor services can be more cost-effective compared to traditional tutoring options. Students can choose from a range of packages or payment plans that suit their budget.
9. **Safety and Security:** With online tutor services, students can learn in a safe and secure environment without the need for physical interaction. This is particularly important for younger students and provides peace of mind to parents.

Overall, home tutor and online tutor services offer numerous advantages that can significantly enhance a student's learning experience and academic performance across various subjects and exams.

## **Disadvantages of the System:**

While home tutor and online tutor services offer numerous advantages, there are also some potential disadvantages to consider:

1. **Technical Issues:** Online tutor services rely heavily on technology, which means that technical issues such as internet connectivity problems, software glitches, or hardware malfunctions can disrupt the learning process. This could lead to frustration for both students and tutors and may hinder the effectiveness of the sessions.
2. **Limited Social Interaction:** Learning from home with a tutor may limit the opportunities for social interaction and collaboration with peers, which are important aspects of a well-rounded education. Students may miss out on group discussions, team projects, and other social activities that promote interpersonal skills and teamwork.
3. **Dependency on Screen Time:** Online tutor services require students to spend additional time in front of screens, which could contribute to issues such as eye strain, fatigue, and decreased attention span. Excessive screen time may also lead to health concerns, including disrupted sleep patterns and decreased physical activity.
4. **Potential for Distractions:** Learning from home can expose students to various distractions, such as household noises, family members, pets, or electronic devices. These distractions may interfere with the learning process and reduce the student's ability to concentrate and stay focused during tutoring sessions.
5. **Limited Availability of Qualified Tutors:** Depending on the location and demand, there may be a limited availability of qualified tutors, especially for specialized subjects or exams. This could result in students having to settle for tutors who may not meet their specific learning needs or expectations.
6. **Difficulty in Building Rapport:** Building rapport and a strong teacher-student relationship can be more challenging in a remote learning environment compared to face-to-face interactions. This could impact the effectiveness of the tutoring sessions and hinder the student's engagement and motivation to learn.
7. **Privacy and Security Concerns:** Online tutor services involve sharing personal information and conducting sessions over the internet, which raises privacy and security concerns. There is a risk of data breaches, unauthorized access to sensitive information, and potential exposure to online threats such as cyberbullying or harassment.
8. **Incompatibility with Learning Styles:** Home tutor and online tutor services may not be suitable for all students or compatible with their preferred learning styles. Some students may thrive in a traditional classroom setting with hands-on activities and group discussions, while others may struggle to adapt to remote learning environments.

It's important to weigh these disadvantages against the benefits when considering whether home tutor or online tutor services are the right fit for a student's educational needs.



## **Chapter-9**

### **CONCLUSION**

In conclusion, while home tutor and online tutor services offer several advantages such as personalized attention, convenience, and accessibility to quality education, they also come with potential disadvantages including limited face-to-face interaction, technical issues, and dependency on screen time. Additionally, concerns such as limited social interaction, distractions, and privacy/security risks need to be considered. Ultimately, the effectiveness of these services depends on individual learning preferences, technological capabilities, and the availability of qualified tutors. It's essential for students, parents, and educators to carefully weigh these factors and consider the unique needs of each student before deciding whether home tutor or online tutor services are the most suitable option for enhancing their educational journey.

## **Chapter-10**

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