**COMPUTER SYSTEM PROJECT PROPOSAL**  
**Tutor Hub**

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**CHAPTER ONE: INTRODUCTION**

**1.1 Background of the Study**

The education sector has significantly evolved with the introduction of technology. However, many students still struggle to understand various academic units, leading to poor performance. **Tutor Hub** aims to bridge this gap by providing a platform that connects students with peer tutors within the university. This system will create an interactive learning environment where students can either register as learners or tutors, depending on their expertise.

**1.2 Problem Statement**

Many students find it difficult to grasp concepts in various academic units due to a lack of personalized guidance. Existing tutoring platforms are often costly, and some lack verification mechanisms, making it hard for students to find reliable tutors. **Tutor Hub** seeks to solve this issue by offering a peer-to-peer learning environment where students can get help from fellow students who have excelled in specific units.

**1.3 Objectives**

**General Objective**

To develop a web and mobile-based platform that connects students to peer tutors for academic assistance.

**Specific Objectives**

1. To allow students to register as tutors or learners.
2. To enable tutors to upload academic transcripts for verification.
3. To create a search and filter feature for finding tutors based on units.
4. To provide a communication channel between students and tutors.
5. To ensure the system is user-friendly and accessible on both web and mobile platforms.

**1.4 Scope of the Study**

This project will focus on developing a **web and mobile** application that serves university students. The system will include **user registration, tutor verification, unit search, tutor-student matching, and messaging features**. The primary users will be university students who need academic assistance and those willing to offer tutoring services.

**1.5 Justification**

The **Tutor Hub** system is necessary because many students struggle with their academic units but do not have an easy way to get peer assistance. This project provides a structured approach to peer tutoring, ensuring that students can find verified and qualified tutors at an affordable or free cost. The system is expected to enhance academic performance and encourage knowledge-sharing among students.

**CHAPTER TWO: LITERATURE REVIEW**

**2.1 Introduction**

This chapter explores existing tutoring platforms and their effectiveness in helping students. It also highlights the gaps in these platforms and how **Tutor Hub** intends to address them.

**2.2 Existing Systems**

Several online tutoring platforms exist, including **Chegg Tutors, Wyant, and Tutor Me**. These platforms provide students with access to professional tutors at a cost. However, they have limitations such as **high costs, lack of peer-to-peer learning, and accessibility issues for students in low-income settings**.

**2.3 Limitations of Existing Systems**

* **High Costs** – Most tutoring platforms charge high fees, making them inaccessible to many students.
* **Lack of Peer Learning** – Existing platforms mainly connect students with professional tutors, ignoring the potential of peer tutoring.
* **Verification Challenges** – Some platforms lack proper tutor verification, leading to unreliable services.

**2.4 Proposed Solution**

**Tutor Hub** aims to overcome these limitations by providing a **free or low-cost peer tutoring system**, where students can easily find and interact with experienced peers within their institution. The system will include **tutor verification through transcript uploads**, making it a more reliable and trustworthy platform.

**CHAPTER THREE: METHODOLOGY**

**3.1 Introduction**

This chapter outlines the methodologies used in the development of **Tutor Hub**, including the software development model, technologies, and system design.

**3.2 Software Development Model**

The project will follow the **Agile Development Model**, which allows for flexibility and continuous improvement. Agile methodology ensures that the project progresses through iterations, incorporating feedback at each stage.

**3.3 Technology Stack**

**Frontend Technologies:**

* HTML, CSS, JavaScript
* React.js (for a responsive and dynamic user interface)

**Backend Technologies:**

* PHP (Laravel Framework for structured backend development)
* MySQL (for efficient database management)

**Hosting and Deployment:**

* Local testing with **XAMPP**
* Deployment on **AWS or DigitalOcean**

**3.4 System Design**

The system will consist of **three main user categories**:

1. **Students (Learners)** – Can search for tutors, request tutoring, and communicate with tutors.
2. **Tutors** – Can register, upload transcripts, list tutoring subjects, and interact with students.
3. **Admin** – Will verify tutors and manage the system.

**Use Case Diagram:** Shows interactions between students, tutors, and the system.

**ERD (Entity Relationship Diagram):** Illustrates the database structure and relationships between users, units, and tutoring sessions.

**CHAPTER FOUR: SYSTEM ANALYSIS AND DESIGN**

**4.1 Introduction**

This chapter focuses on analyzing the system’s requirements and how the design will fulfill the objectives of the project.

**4.2 Functional Requirements**

The system must provide the following functionalities:

* **User Registration** – Students and tutors can sign up and create profiles.
* **Tutor Verification** – Tutors must upload transcripts for approval.
* **Search and Filter** – Students can search tutors based on units and availability.
* **Messaging System** – Enables student-tutor communication.

**4.3 Non-Functional Requirements**

* **Scalability** – The system should handle a large number of users.
* **Security** – User data should be protected using encryption.
* **User-Friendly Interface** – The UI should be intuitive and responsive.

**4.4 System Architecture**

The system will follow a **three-tier architecture**:

1. **Presentation Layer:** Frontend interface (React.js for web, mobile-friendly design).
2. **Application Layer:** PHP Laravel backend handling business logic.
3. **Database Layer:** MySQL database storing user information and tutoring sessions.

**4.5 Database Design**

* **Users Table:** Stores student and tutor details.
* **Subjects Table:** Stores available subjects for tutoring.
* **Tutoring Sessions Table:** Tracks student-tutor interactions.

**4.6 User Interface Design**

The UI will be designed to be **simple, responsive, and easy to navigate**, ensuring a seamless user experience for both students and tutors.

**NEXT CHAPTERS:**

* **Chapter 5: System Implementation and Testing**
* **Chapter 6: Results and Discussion**
* **Chapter 7: Conclusion and Recommendations**