EazeTuition System

Ong Yi Xin, Sia Keng Loon
Supervisor: Yeoh Kar Peng
BIT (Hons) in Software Systems Development

Abstract

EazeTuition is an AI-enhanced tuition management system offering automated scheduling, intelligent timetable recommendations, AI homework evaluation, seamless payments, attendance tracking and streamlined communication for tutors, students and parents.

Problem Statement

- Manual Scheduling
- Inefficient Payments
- Attendance Opacity
- Homework Bottleneck

Objectives

- Automate Scheduling
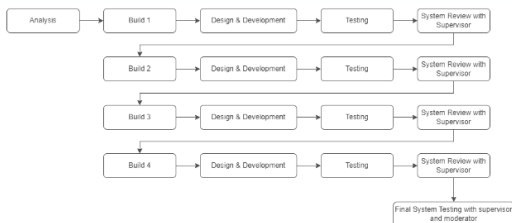- Streamline Payment
- Clarify Attendance
- Enhance Homework
- Improve Communication

Design and Methodology

EazeTuition adopts an MVC architecture, integrating Flask controllers, SQLAlchemy models and independent web/mobile views. The backend manages business logic and database operations, while the web admin panel and React Native mobile app provide customized interfaces for administrators, tutors, parents and students.

Our system employs an incremental development model, delivering functional modules through controlled short cycles. Each iteration encompasses analysis, design, implementation, and testing phases, enabling continuous optimization and facilitating the integration of complex modules.

Construction and Testing

DEVELOPMENT TOOLS
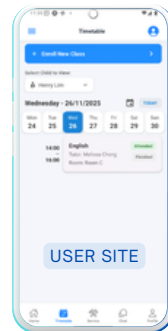
- VS CODE
- XAMPP
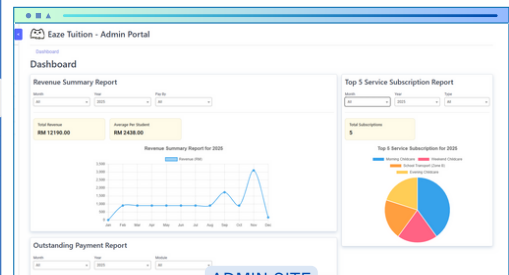- EXPO GO
- MYSQL
- REACT NATIVE
- PYTHON

The system developed using Python with Flask for implementing the backend logic. The mobile interface was built using React Native with Expo Go and VS Code served as the primary IDE. The database environment runs with MySQL via XAMPP, while the testing environment covers standard desktop devices and Android devices.

SOFTWARE SYSTEMS

USER SITE

ADMIN SITE

User Site (Parent, Student, Tutor)
- Quick Class & Service Enrollment
- Online Payment Portal (Stripe)
- Transparent Payment Records
- Instant Timetable Access
- Attendance Management & Tracking
- Homework & Submission Tracking
- Announcements & In-App Messaging

Admin site
- Subject & Class Management
- Automated Class Scheduling
- Other Services Management
- Class & Service Enrollment Management
- Online & Offline Payments Management
- User Management
- Announcement & Messaging

INNOVATIONS

- AI-Driven Timetable Evaluation & Recommendation
- AI-Powered Homework Evaluation
- Flexible Fee Calculation Engine
- Adaptive Progress & Evaluation

Contribution

- ROBUST SCHEDULING ENGINE
- AI-ASSISTED LEARNING SUPPORT
- INTEGRATED PAYMENT & SERVICE
- REAL-TIME ATTENDANCE VISIBILITY

Conclusion

EazeTuition modernizes tuition center's operations through automated scheduling, transparent attendance tracking, AI-powered assessment support and streamlined payment processes. The incremental development strategy ensures stable system integration, ultimately creating a smarter, more efficient and more reliable operational platform.