Sri Lanka Institute of Information Technology



Activity 01 – Requirements Analysis Activity

EDUCONNECT (Education Management System)

IT Project – IT2080 B.Sc.(Hons) in Information Technology

Details of the Group Members:

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Content

Part 01

- 1. Brainstorm and identify a real-world problem that needs an IT solution. This can be a business requirement, a requirement of an organization to improve the current process or an innovative idea that solves a current issue.
- 2. Identify the users of the product and the benefit that they will get by the software system
- 3. Sketch a diagram to show the current business process and the proposed improvements you suggest
- 4. List the main features of the product that you are planning to develop.
- 5. List of user requirements for the features you have identified.
- 6. Suggest a suitable name for the project.

Part 02

Sketch the GUIs and database tables to demonstrate your understanding.

Part 01

01)

Many students, especially in developing regions, lack access to quality education due to financial constraints, limited availability of qualified teachers, and inadequate infrastructure. Similarly, educators struggle to monetize their knowledge effectively, and educational institutes need scalable digital platforms to expand their services beyond physical classrooms.

Bridging the Education Gap

- Students from remote areas or underprivileged backgrounds can access quality education through a digital platform.
- The platform allows self-paced learning, making education more flexible and inclusive.

Empowering Educators

- Teachers can create and sell study packs, generating additional income.
- They can reach a global audience rather than being limited to a physical classroom.
- Automated Homework Evaluation: Teachers don't need to check homework manually—the web app automates the process, saving time and improving efficiency.

Enhancing Educational Institutes' Reach

• Institutions can use the platform to offer their services online, increasing enrollment and revenue.

• Digital transformation helps institutes stay competitive in the modern education landscape.

Cost-Effective and Scalable

- A centralized web platform reduces costs compared to traditional brick-and-mortar setups.
- Scalability ensures institutions, teachers, and students can grow without geographical limitations.

02)

Users:

- Students
- Teachers
- Educational Institutes
- Admin

Students:

- Students can access high-quality educational content anytime anywhere.
- Students can go through learning materials.
- Also, they have an online library system for their educational purposes.
- live classes and recorded sessions for flexible learning

Teachers:

- ability to create and sell their lessons to any student
- Secure payment system for course monetization
- Efficient class and student management tools
- Can analyze student progress
- Teachers upload study materials to the web app easily

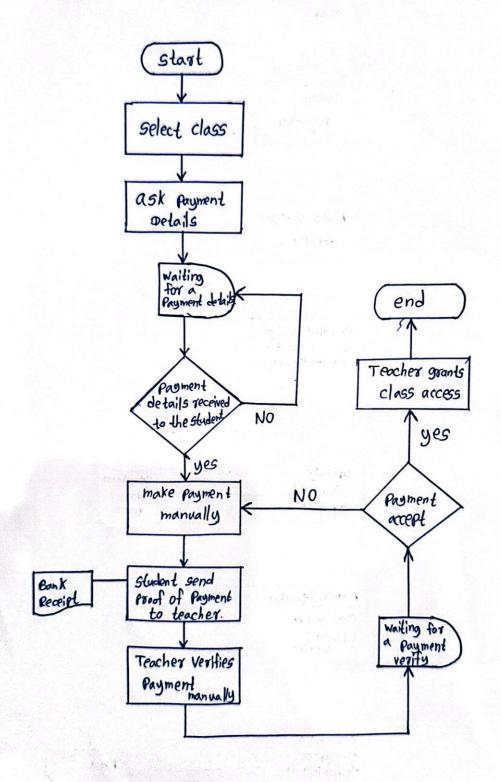
Educational Institutes

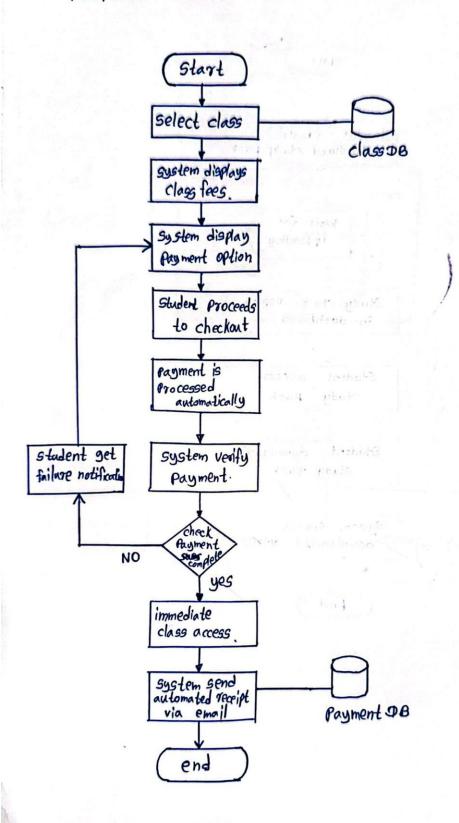
- Manage student enrollment, lesson schedules, classes
- Can easily track student performance and feedback
- Integrated payment and subscription management system for revenue generation.
- Secure payment system for course monetization

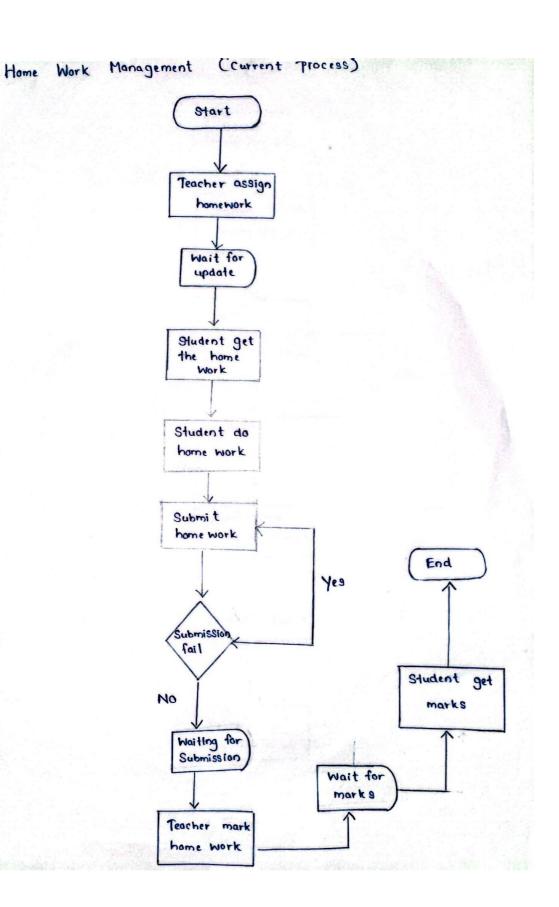
Admins and owners:

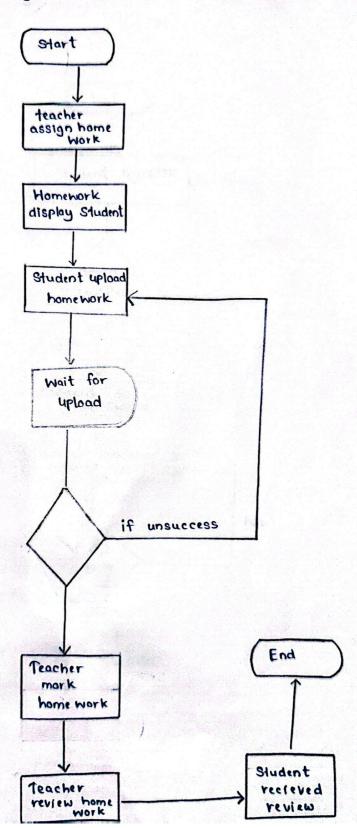
- Can fully control the user management, courses, and contents
- Secure data management and user privacy control
- Payment and subscription tracing
- Report generating

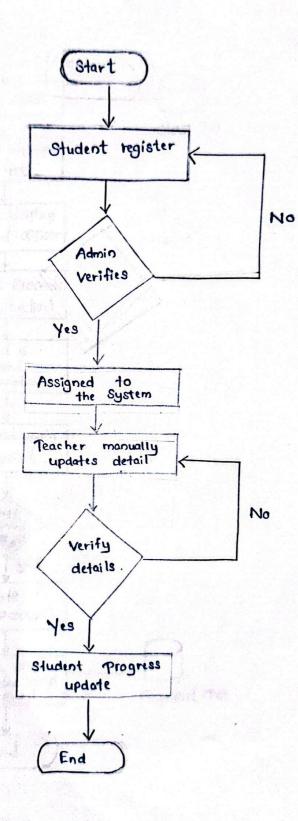
current student Payment Process.

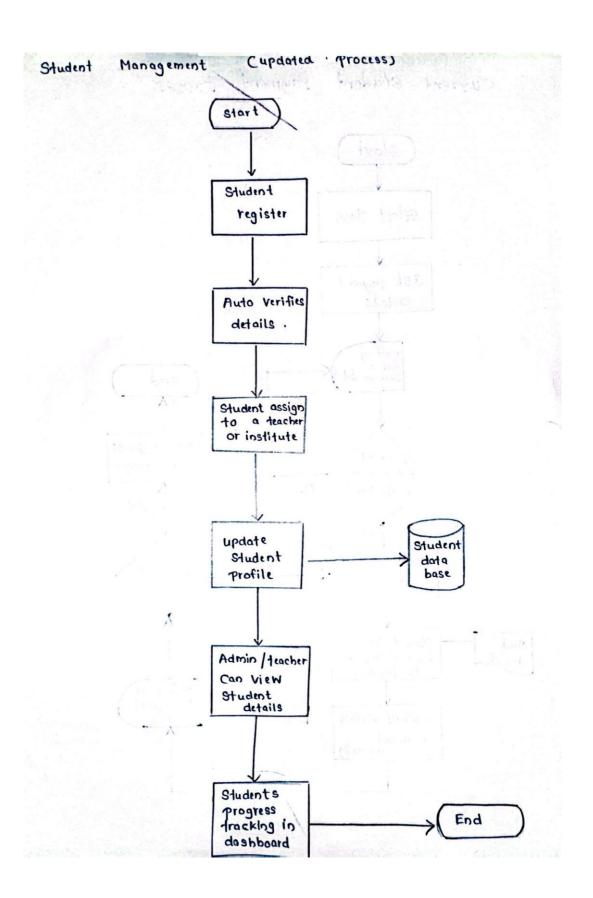


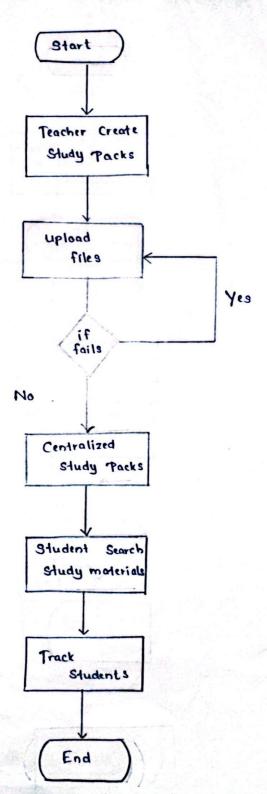


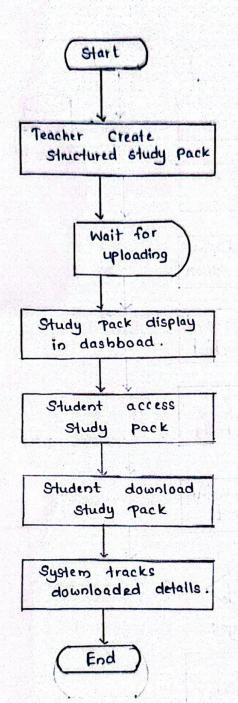


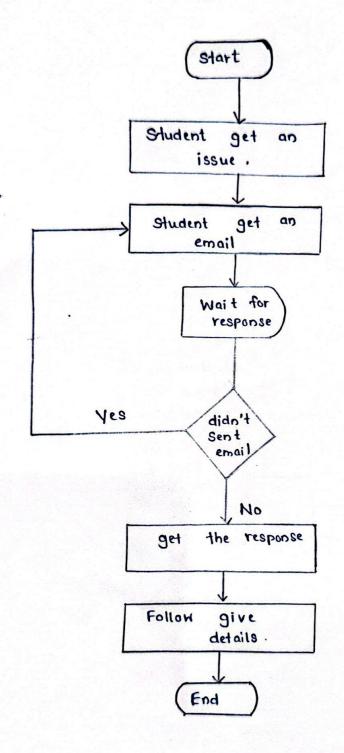


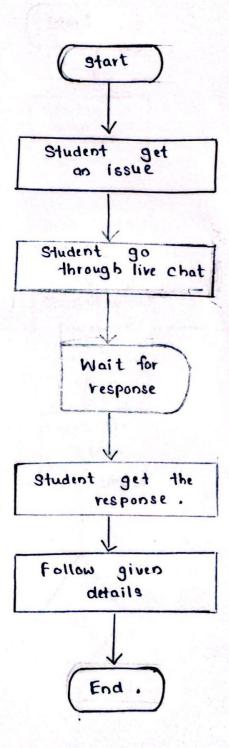












04)

Features:

- Student Management
- Teacher (instructor) Management
- Study pack (Course) Management
- Library Management
- Supportive Management
- Reporting
- Homework (assignment) Management
- Class Management
- Admin Management
- Payment and Subscription Management

05)

User requirements:

	Feature	Requirements
1	Student Management	 Students can register, enroll in the lessons, complete homework, and track their progress Students must be able to register with personal details Also, they have able to edit their details Password and account recovery and account management must be available. Course enrollment confirmation should be sent through email or notifications Attendance should be recorded Overall lesson progress Students should have to upload homework online in different file formats Must push notifications and alerts Should generate student reports Should generate instructor (teacher) reports Should generate admin reports Secure user authentication and password encryption Secure payment transaction Role based control

2	Teacher Management	 Register, create courses, manage content, track student progress, and receive payments Teachers must be able to register using personal details, professional details, and verifications Teachers can create courses with details Able to upload course materials Able to schedule live class Able to update and delete uploaded lessons Able to view student enrollment details Track student progress, attendance System should provide notification for interaction Student can rate and review teachers after course completion Able to track overall course success metrics The system should integrate secure payment processing. Able to view teachers' income Payment should be based on lesson enrollment number, course completion rates, and live lesson participation. Should receive notifications. Teachers should not access admin/student data beyond permissions. Protect sensitive teacher documents and payment info (data
		encryption) • Should have to generate reports in
		course analytics, Students, and payments.

3	Class Management	 Must track attendance, receive notifications, and attend live classes (Students) Schedule and conduct live classes, upload lessons, and track students. (teachers) Teachers can schedule and conduct live classes at specific times. The system should allow instructors to share meeting links from external video conferencing platforms. teachers must be able to upload recorded lectures to the platform. Students should be able to download lessons. Videos should be stored in the cloud for centralized access, backup, and security. The system should allow searching and filtering recorded lectures teachers must be able to create, edit, and manage class schedules Scheduling should include class name, date, time, duration, topic, teachers name, meeting link, lesson materials. Students must receive notifications through email or in-app push notifications Notifications should be made regarding upcoming classes, schedule changes, required study materials. Manual attendance marking should be available for instructors. The system should generate attendance reports.
i	1	

	 Reports for teachers should be attendance report, Salary report. Reports for students should be personal attendance history Reports for admin should be covered with all statistics in the situation There should be role-based access control Data privacy is a must
4 Homework and Assignment	 For teachers should have create, manage, analyze student performance. For students should have to do homework, and receive feedback Teachers can add homework with various question types Homework can be assigned to specific courses, students, or groups. Teachers can upload assignments, set deadlines for assignments, and enable file uploads. Students can upload submit assignments. Instructors can manually review and grade Teachers can set homework duration, Start and end time. Should display Warning alerts before time runs out Reports generate students' improvments. There should be role base access control Data Encryption

		Individual student performance tracking
5	Supportive Management	 Provides students, teachers, and administrators with assistance in resolving issues Includes an FAQ section, chatbot, or live support for common queries. Admins and support staff can track, prioritize, and resolve issues efficiently. A messaging system allowing students to communicate with teachers and admin. Announcement board for institutions to share important news and updates Students can rate courses and teachers after completion. Teachers can provide feedback on student performance. Surveys and feedback forms to improve the platform. Ensures system uptime and smooth performance. Bug tracking and software updates to fix issues and enhance security. Data backup and recovery mechanisms. Role-based access to ensure data privacy. Secure authentication and encryption of user data. Monitoring of unauthorized access and suspicious activities. Managing online library resources for students. Tracking and updating study materials and course content.

6	Reporting	Course Progress Report: Tracks student enrollment, completed lessons, and progress percentage.
		Attendance Report: Shows attendance records for live classes, participation in discussions, and login activity.
		Quiz & Assignment Report: Displays scores, submission status, deadlines, and overall academic performance.
		Performance Analytics: Compares student scores with class averages and provides improvement suggestions.
		 Payment & Subscription Report: Displays payment history, active subscriptions, and pending dues.
		Student Progress Report: Allows teachers to track the performance of students in their courses.
		Course Performance Report: Analyzes enrollment rates, completion rates, and feedback ratings.
		Salary & Income Report: Displays earnings based on lesson enrollments, live class participation, and course completion.
		Attendance Report: Tracks students' attendance in scheduled live sessions and recorded lessons.
		 Assignment & Quiz Reports: Provides insights into students' quiz scores, assignment submissions, and grading efficiency.

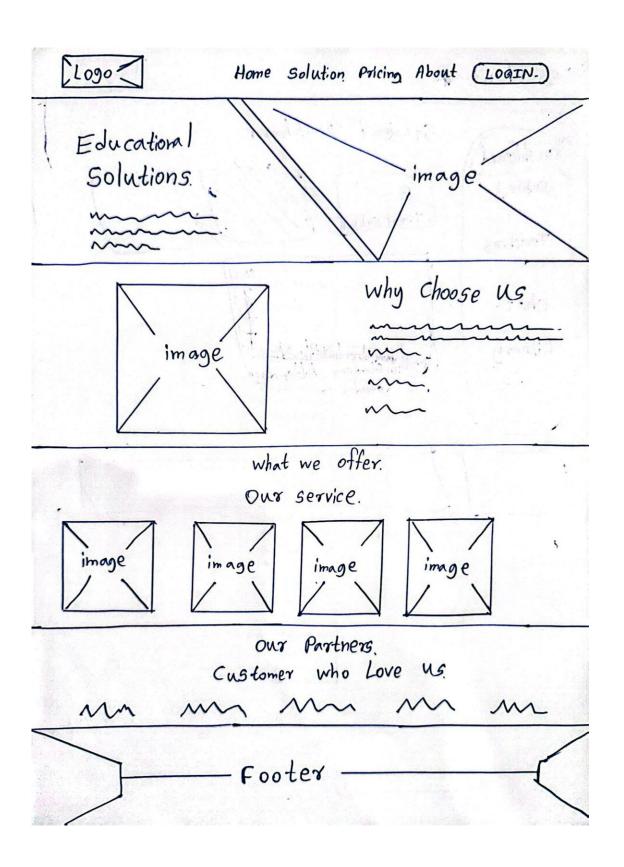
- **User Management Report:** Shows the total number of students, teachers, and institutions using the platform.
- System Usage Report: Tracks daily, weekly, and monthly logins, active users, and content engagement levels.
- Revenue & Payment Report: Monitors payments, subscription plans, pending fees, and income distribution.
- Teacher Performance Report:
 Evaluates teacher effectiveness based on course ratings, student feedback, and engagement levels.
- Security & Activity Log Report:
 Identifies failed login attempts,
 unauthorized access, and overall
 system security health.
- Live Class Attendance Report: Tracks attendance of students in live sessions.
- Class Engagement Report: Monitors student interaction during classes, including participation in Q&A.
- Lesson Completion Report: Displays completion rates of recorded lectures by students.
- Overall Platform Performance
 Report: Tracks uptime, active sessions, and user engagement.
- Storage & Resource Usage Report: Monitors cloud storage usage for videos, files, and documents.
- Error & Bug Report: Logs system issues and user complaints for maintenance teams.

Upload and manage library resources, Library Management set access permissions, monitor borrowing activities, and enforce penalties. Upload and categorize course materials, manage e-books and media resources. (teachers) Search, borrow, download, and reserve e-books, PDFs, and multimedia files. (students) • Admins & teachers can upload (PDF, Document etc.) The system should generate Thumbnails or previews for easy reference and Metadata fields User can search using search bar. • should download e-books etc. Downloads could be share Available notifications when Download Total books/resources uploaded(Admin) 8 Study pack Management Review and approve Study pack manage, add, update, and delete.(Admin) • Create, update, and manage Study packs, upload content, and track student progress.(teacher) • Enroll in study pack, access content, complete home work/assignments, and track progress.(student) • Teachers can Create new study packs and add descriptions • Upload course materials(different file types)

		 Modify or update content, and students receive notifications when changes are made. (teacher) Organize courses into categories for easier navigation. (teacher) Courses can be divided into modules or sections Students can browse, search, and enroll in study packs System tracks student progress Teachers reports should be study pack engagement statistics There should be role based access control Protects study packs
9	Admin Management	 The system must allow the admin to log in securely. The admin should be able to view a list of all registered teachers and institutes. The system should allow the admin to edit teacher details and institute details. The admin must be able to activate or deactivate teacher accounts. The system should allow the admin to delete teacher accounts if necessary. The admin must have the ability to manage website pages (Home, Terms, Privacy, About, Contact, Pricing). The system should provide an admin dashboard with an overview of total teachers, subscriptions revenue.

10	Payment and Subscription Management	 The system must allow the admin to manage and track teacher, institute subscription payments. The admin should be able to view payment history and generate reports. System must allow the teacher to manage student for payments.
		 manage student fee payments. The system should provide a secure payment gateway integration for handling transactions. The system must allow teachers to subscribe to different
		 plans.(EduPro,EduElite). Teachers should be able to make secure online payments for their subscriptions. The system must provide teachers with a detailed payment history.

Part 02





Dashboard

subjects

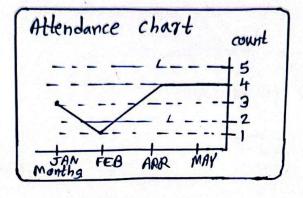
Teachers.

chat

Library

Student Dashboard.

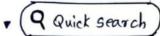
3 Total subjects



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Dashboard.

class

Student

subject

Payment

COCHEMINA

Billing

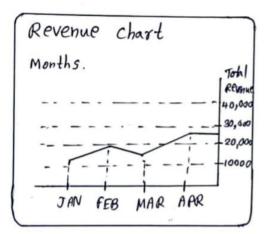
Library

support ticket

Teacher Dashboard.

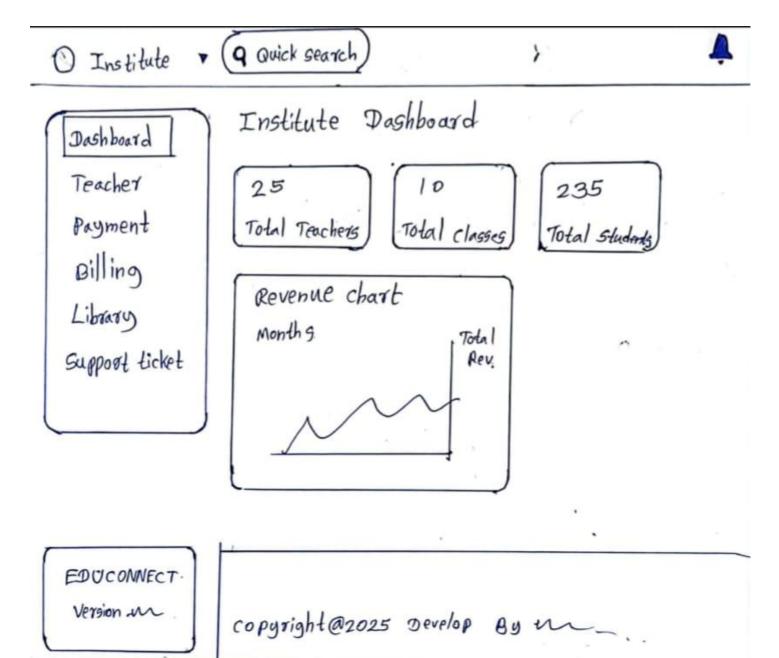
35 Total Students Total classes

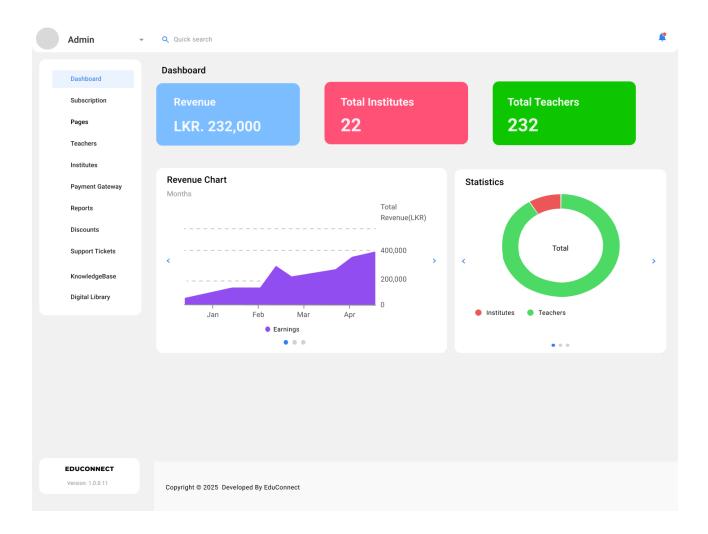
2 Total subjects

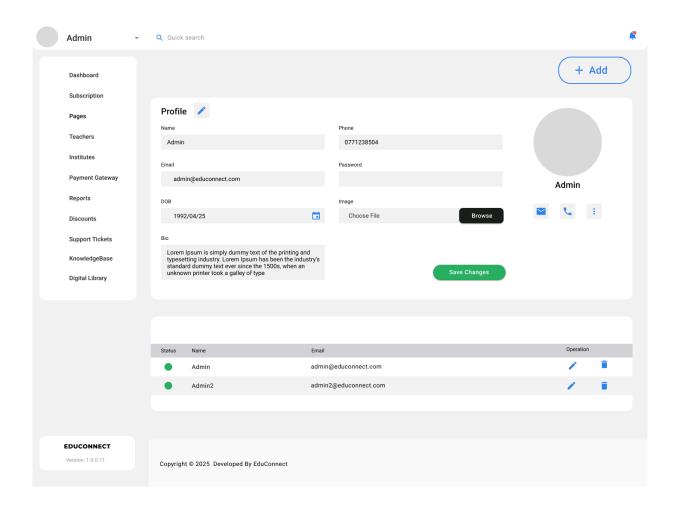


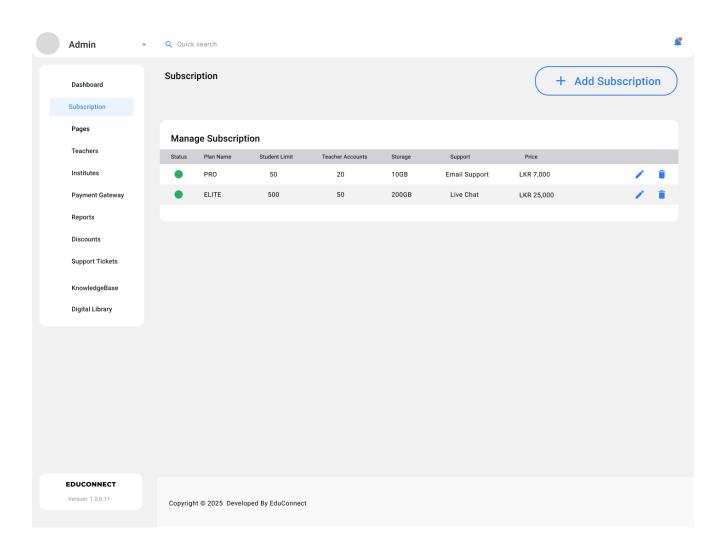
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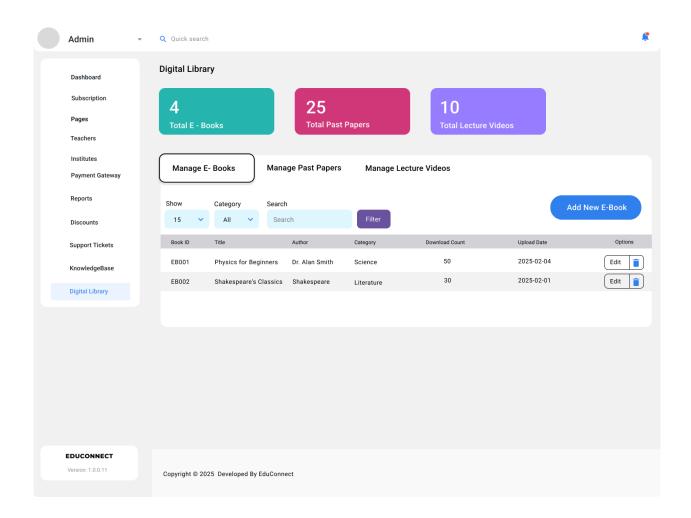
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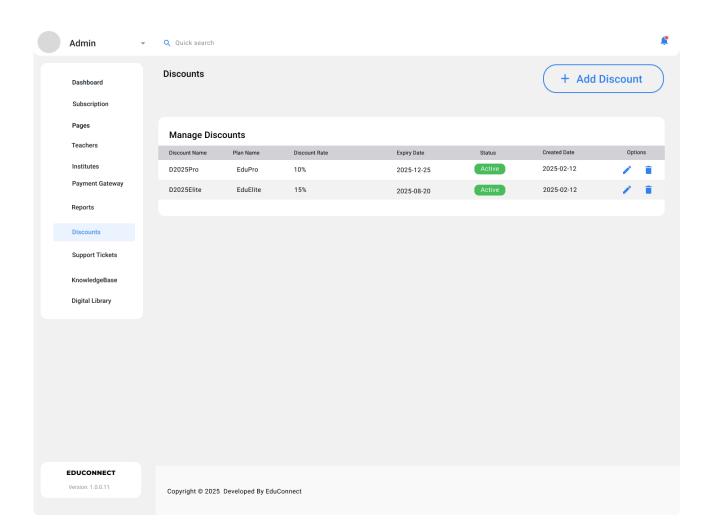


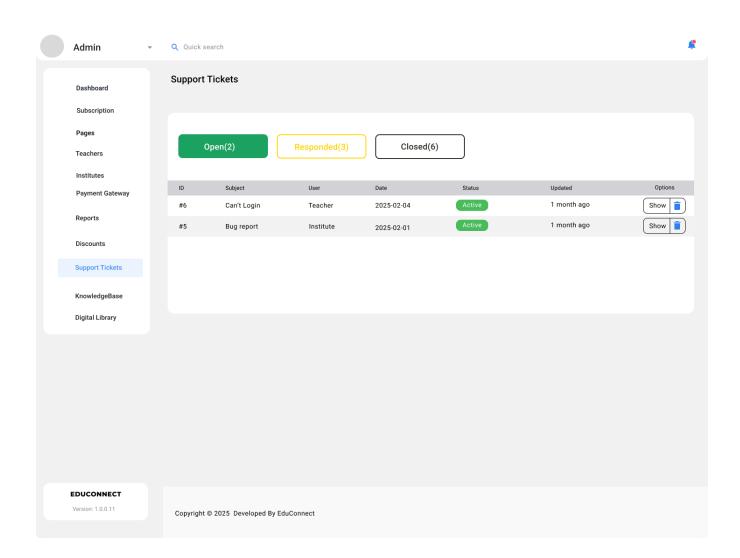


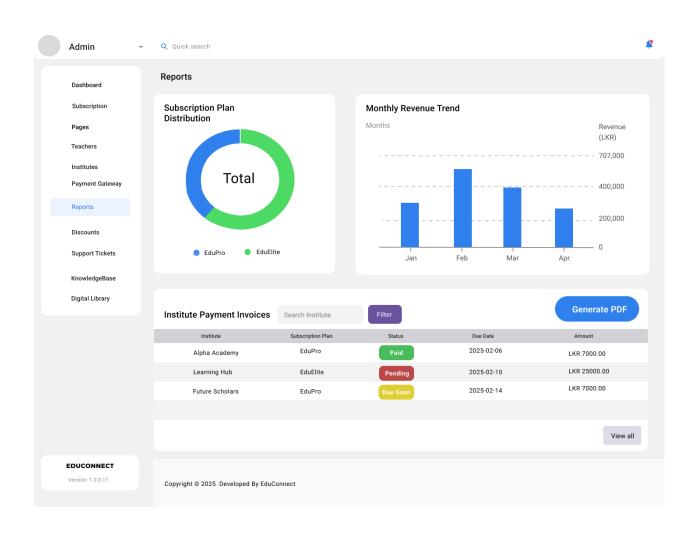


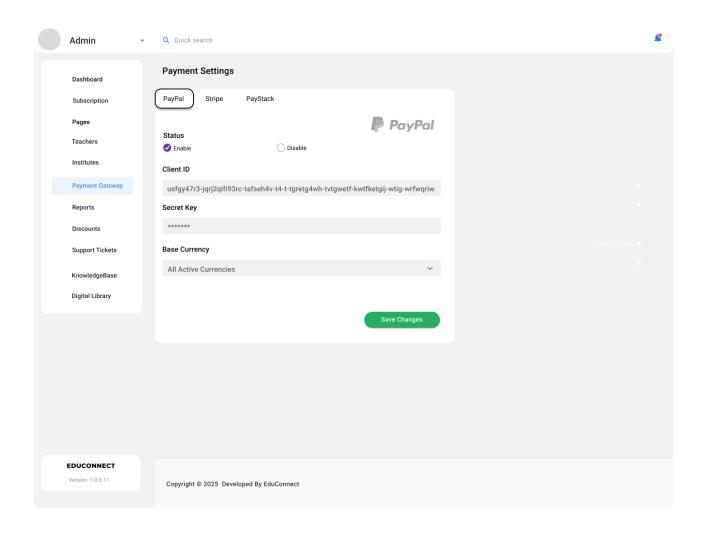


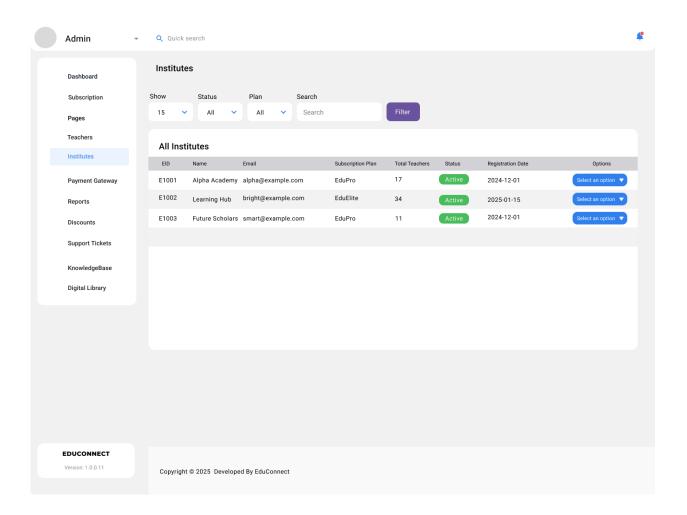


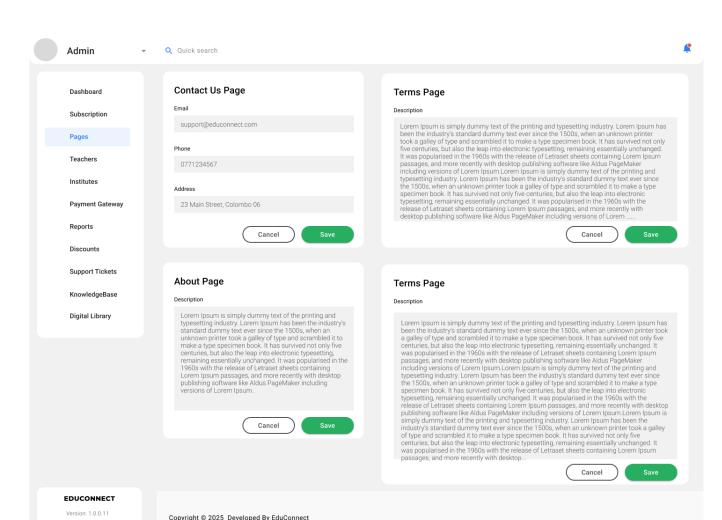


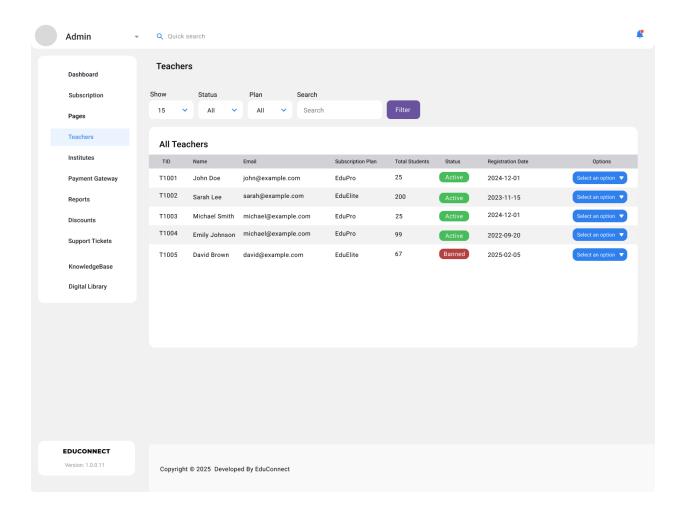












Database Table

- 1. EBooks
 - (book_id, title, author, category, download_count, upload_date)
- 2. PastPapers
 - (Pastpaper_id, title, subject, grade_level, exam_year)
- 3. LectureVideos
 - (lecvid_id, title, subject, grade_level, duration, video_url, thumbnail_url, upload_date, view_count, visibility)
- 4. SupportTickets
 - (ticket_id, subject, username, user_type, date, status, updated_time)
- 5. Discounts
 - (dis_name, plan_name, discount_rate, expiry_date, status, created_date)
- 6. Instituteinvoice
 - (ins_invoice_id, institute_name, status, due_date, amount)
- 7. Institutes
 - (e_id, ins_name, ins_email, password, subscription_plan, total_teachers, status, registration_date)
- 8. ClassFees
 - (class_fee_id, student_id, fee_amount, class_name, due_date, status)
- 9. Teachers
 - (t_id, t_name, t_email, password, subscription_plan, total_student, status, registration_date)
- 10. Students
 - (student_id, student_name, s_email, address, phone_number, date_of_birth, gender, profile_image, registration_date, status)

11. StudyPack

• (pack_id, title, subject, uploaded_by, files_url, uploaded_by, upload_date, visibility, download_count)

12. Videos

• (video_id, title, video_url, uploaded_by, expiry_time, subject, grade_level, thumbnail_url, duration, watch_count)