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PROJECT PROPOSAL

Prepared By :

2nd year group IS_03

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Details of Project Supervisor, Co-supervisor, Advisors, and Clients

Proposed Project Supervisor (Academic Staff of UCSC):

Name of the supervisor: Mr. T.N.B. Wijethilake

Signature of the supervisor:

Date: 27.06.2025

Proposed Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co - supervisor: Ms. W.I.J. Wijewardhana

Signature of the co-supervisor:

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1.Introduction

1.1. Problem statement

In Sri Lanka's rapidly evolving educational landscape, tuition institutes and teachers often struggle with managing their academic and administrative operations efficiently. From handling student enrollments, class schedules, and attendance to sharing learning materials, managing fees, and conducting assessments most processes are either manual, inconsistent, or fragmented across multiple tools and platforms. This disjointed approach not only leads to operational inefficiencies and communication gaps but also hinders the quality of education and the learning experience.

Our Tuition Management System (TMS) addresses the operational challenges faced by tuition institutes, teachers, students, and marking panel members by providing a centralized, web-based platform. The system streamlines daily processes, improves communication, and ensures accurate management of academic and administrative tasks. Below is a breakdown of the challenges and how TMS provides solutions for each stakeholder.

Tuition Institutes

Challenges:

- Difficulty in managing multiple classes, teachers, and students simultaneously.
- Manual handling of payments, invoicing, and teacher compensation, increasing administrative workload.
- Lack of effective tools for advertising and promoting the institute's offerings.
- Difficulty in tracking attendance, especially for physical classes.

TMS Solutions:

- Dedicated institute interface for managing profiles, scheduling classes, and viewing teacher/student data.
- Simulated payment processing using a sandbox environment, invoicing, and teacher compensation tracking.
- Built-in advertising and promotion features to increase institute visibility.
- QR code-based attendance tracking for physical classes, ensuring accuracy and reducing manual effort.

Teachers

Challenges:

- Managing multiple classes across different formats (individual, group, institute-based).
- Keeping track of student progress and attendance manually.
- Difficulty in sharing and updating learning materials efficiently.
- Limited ability to analyze student performance without integrated tools.

TMS Solutions:

- A personal dashboard to manage classes, upload learning materials, and access student data.
- Automated attendance records and payment tracking.
- Tools to organize exams, approve marking panel members, and analyze student results.
- Support for both online class streaming and physical class attendance monitoring.

Students

Challenges:

- Complicated processes for registering in classes and accessing learning resources.
- Difficulty in tracking payments and receiving timely reminders.
- Limited or unstructured access to learning content and recorded sessions.

TMS Solutions:

- User-friendly student interface for class registration, profile management, and fee payments.
- Automated notifications and reminders for classes, payments, and important updates.
- Easy access to shared learning materials and class recordings.
- QR code-based attendance for physical classes and integrated online class participation.

Marking Panel Members

Challenges:

- Lack of centralized tools for registering, marking, and generating reports.
- Manual result analysis processes that are time-consuming and error-prone.

TMS Solutions:

- A dedicated marking panel interface for class registration, exam marking, report generation, and result analysis.
- Ranking tools and analytics to support fair assessment and academic decision-making.

Administrator

Challenges:

- Managing system-wide configurations, approvals, and community forums.
- Ensuring compliance, security, and smooth operation across all user groups.

TMS Solutions:

- Admin interface for approving advertisements, managing forums, and overseeing platform operations.
- Tools to monitor compliance, manage user access, and ensure secure, ethical use of the platform.

By unifying all tuition-related activities into one intelligent system, this platform aim to reduce administrative burdens, improve collaboration, enhance learning outcomes, and create a modernized educational ecosystem. TMS empowers teachers to focus on teaching, institutes to grow efficiently, and students to access personalized, structured, and engaging learning experiences whether online or offline.

1.2.How is it different?

At present, tuition-related activities for Advanced Level (A/L) students in Sri Lanka are managed using a mix of manual processes, social media groups, messaging apps, and basic spreadsheets. Teachers and institutes often rely on separate tools for class scheduling, attendance tracking, fee collection, and sharing learning materials. This fragmented approach not only consumes time but also increases the risk of miscommunication, data loss, and administrative overload. Existing systems, where available, typically focus on just one stakeholder either teachers or students and often lack the flexibility to support individual tutors, tuition centers, or hybrid teaching models.

Importantly, Sri Lanka currently lacks a unified platform that connects all tuition institutes, teachers, and students into a single system. Recognizing this gap, we are introducing this concept through our Tuition Management System (TMS). Designed specifically for the A/L tuition sector, TMS brings together all key participants including teachers, A/L students, institutes, admins, and marking panels into one cohesive digital ecosystem. Unlike other solutions, TMS supports both physical and online learning environments, facilitates seamless collaboration across roles, and automates time-consuming tasks such as payment tracking, exam management, and result analysis. With its unified, user-friendly design, our platform ensures efficient management, better communication, and a structured learning experience making it a truly comprehensive solution tailored to modernize the A/L tuition ecosystem in Sri Lanka.

Comparison of TMS with Existing Tuition Management Approaches

Features	Current Common Approach	TMS Approach
Class Scheduling	Separate apps / manual via spreadsheets	Built-in scheduling tools
Attendance Tracking	Manual (paper or Excel)	Automated (QR codes for physical, logs for online)
Payment Collection	Bank transfers / manual tracking	Secure online payments with tracking
Learning Material Sharing	Social media groups / messaging apps	Integrated upload and sharing within the platform
Hybrid Mode Support	Rarely supported	Fully supported (physical + online classes)
Stakeholder Coverage	Focus on one group (teachers or students)	Covers all: teachers, students, institutes, panels, admin
Collaboration Tools	Not integrated	Built-in communication tools and forums
Result Analysis & Reporting	Manual	Automated with real-time analytics and reporting

2. Project Goal

Our primary goal is to develop an innovative, all-in-one web application tailored for tuition institutes, individual educators, and Advanced Level (A/L) students across Sri Lanka transforming the way academic classes are managed and delivered. This comprehensive Tuition Management System (TMS) is designed specifically for the A/L education sector to streamline administrative tasks, enhance communication, and ensure the effective delivery of both physical and online classes.

The system integrates essential features such as student enrollment, class scheduling, payment tracking, QR-based attendance, exam and marking management, and digital content sharing, significantly reducing the operational burden on teachers and administrators. For A/L students, it provides a personalized experience through timely notifications, easy access to learning materials, and performance tracking.

Additionally, the platform equips institutes with tools for advertising classes, managing finances, and generating analytical reports to enable data-driven decisions. Teachers benefit from role-specific interfaces that support seamless class management, exam organization, and student engagement.

Through this unified digital ecosystem, our project aims to modernize the tuition sector for A/L education, foster better collaboration among stakeholders, and elevate the quality and accessibility of education across Sri Lanka.

3. Project Scope

3.1. Project Boundaries

3.1.1. Users

- Admin
- Tuition Institutes
- Teachers
- Students
- Marking Panels

3.1.2. In-Scope

- Developing a web application by integrating tuition institutes, A/L students and teachers in Sri lanka.
- Creating a signup system to obtain necessary documents to verify login and using a verification team, to verify the sign-ups, limit unauthorized user access, and verify the accuracy of posts.
- Implementing an easy-to-use viewing and filter out section for the students and institutes.
- Providing comprehensive details about classes, teachers and institutes and facilitating subject wise communication between students under the control of admin.
- Institutes can request for advertising on the landing page by approving admin.And also this is the method our system gains profit.
- Implementing a rating system to rate classes.
- All payments in the system will be handled by the admin. Admin receives payments from students. And then admin distributes the income between individual teachers and institutes according to a legal procedure.
- Implementing a scheduling system for students, institutes and teachers.
- To enhance the delivery of stream classes, the system will integrate online live streaming functionality using third-party APIs.
- Implementing a ranking system based on students' marks within every institute class. So students can view their rank and marks and also teachers can view students ranks and results to enhance their teaching methods and efficiency.
- Joining an institute class facilitating both online and physically. Both online and physical students should pay for classes through the system. Then only physical students will receive a QR code as a proof of their payments. As well, QR code helps to track student attendance according to the preferences of the institute or teacher.
- Institute classes consist of marking panels. Past students of the relevant class can apply to join the marking panel based on their A/L exam results. The teacher who

conducts that class will view applications and decide who qualifies to participate.Then the system shifts those students as marking panels and sends a new username.

3.1.3. Out-scope

- The platform will not provide direct class streaming functionality through technologies like WebRTC built-in. Instead, it will rely on integrating with existing, reliable external streaming tools where necessary.
- While the system may display class listings on the landing page, it will not include advanced recommendation engines or AI-driven suggestions beyond simple sorting or filtering.
- The platform will not manage or host large-scale seminars, workshops, or webinars beyond standard class sessions; organizing such events will remain the responsibility of the institute or teacher.
- The platform will provide basic community forum features if required, but will not offer advanced community management tools such as moderation workflows, reputation systems, or gamification features beyond simple discussion boards.
- The platform will focus exclusively on tuition management activities such as class scheduling, attendance tracking, learning material sharing, exam management, and payment handling. It will not cover general educational marketplace functionalities like job boards, textbook sales, or unrelated e-learning services.
- While the system enables coordination between institutes, teachers, students, and marking panels, it will not manage physical logistics such as classroom setup, transportation, or delivery of physical materials (e.g., printed notes or books)
- The system will not handle external legal requirements or processes, such as registering tuition institutes as official businesses, obtaining educational licenses, or managing compliance beyond standard data protection and privacy practices.
- The platform helps institutes promote their classes within the system, but it will not offer comprehensive external marketing or advertising services beyond its built-in promotion features
- The system is designed only for Advanced Level (A/L) students and will not support or cater to other educational levels or grades (e.g., Ordinary Level, primary, or university programs).

4. Objectives of the Project

● Identify the requirements of relevant stakeholders through discussions:
Conduct comprehensive discussions with tuition institutes, teachers, students, marking panel members, and administrators to gather their specific needs and challenges. Document these requirements to ensure the platform meets the operational and educational goals of all stakeholders.

● Develop a web application to manage tuition institutes, classes, and student activities:
Build a robust, web-based Tuition Management System that enables institutes to manage their profiles, schedule classes, handle payments, and track advertisements. Ensure the system is intuitive for users of varying technical abilities.

● Provide a platform for efficient collaboration among institutes, teachers, students, and marking panels:
Enable seamless interaction between institutes, teachers, students, and marking panels through integrated tools for communication, learning material sharing, marking, and progress tracking. This includes community forums and class-specific communication features.

● Facilitate easy enrollment, class participation, and payment processing for students:
Create a user-friendly interface for students to register for classes, access learning materials, join online sessions, track their progress, and make secure payments. Implement QR-based attendance for physical classes and automated notifications for reminders.

● Analytics and reporting:
Integrate dashboards and reporting tools that provide institutes, teachers, and marking panels with insights into student performance, attendance records, exam results, and overall class engagement. Include ranking and analysis features to aid academic decision-making.

5. Project Feasibility

5.1. Social Feasibility

Our Web based platform aims to bridge the gap between A/L students, tuition institutes and teachers in Sri Lanka by providing a centralized, transparent and secure environment for educational interaction with efficient collaboration.

For that we have to consider how well the system will be accepted and supported by society, users, and stakeholders, considering factors like user experience, trust, and the potential to improve current practices. So we were gathering these requirements in three ways such as conducting a survey for A/L students and interviewing some teachers and institutes.

Survey of Students:

Conduct a survey targeting A/L students to identify their interests and existing systems' behaviours. Questions include;

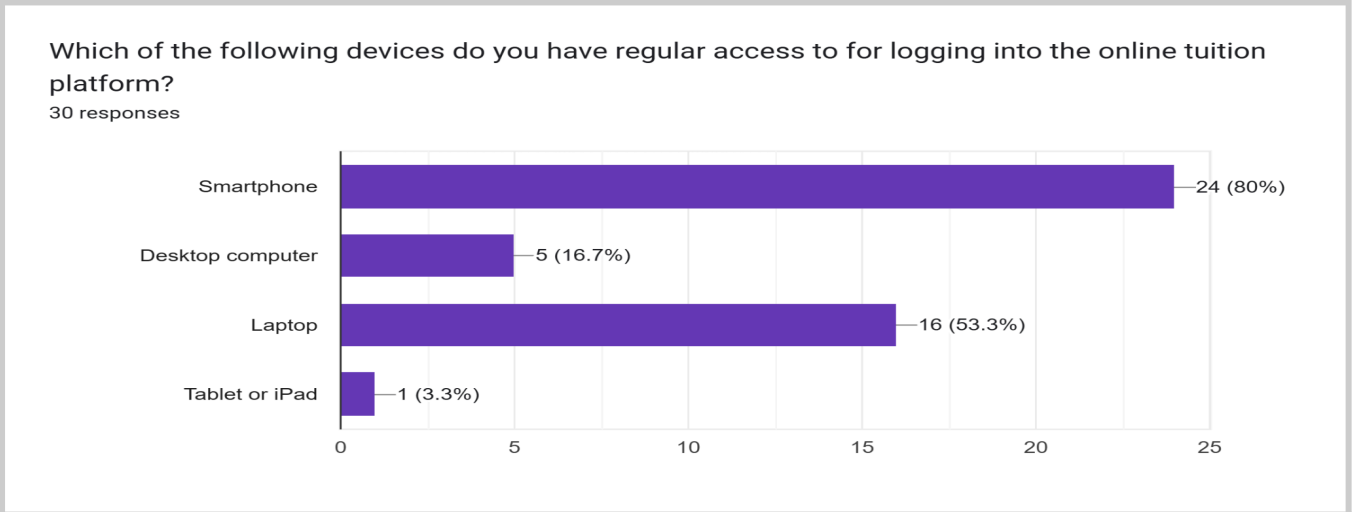
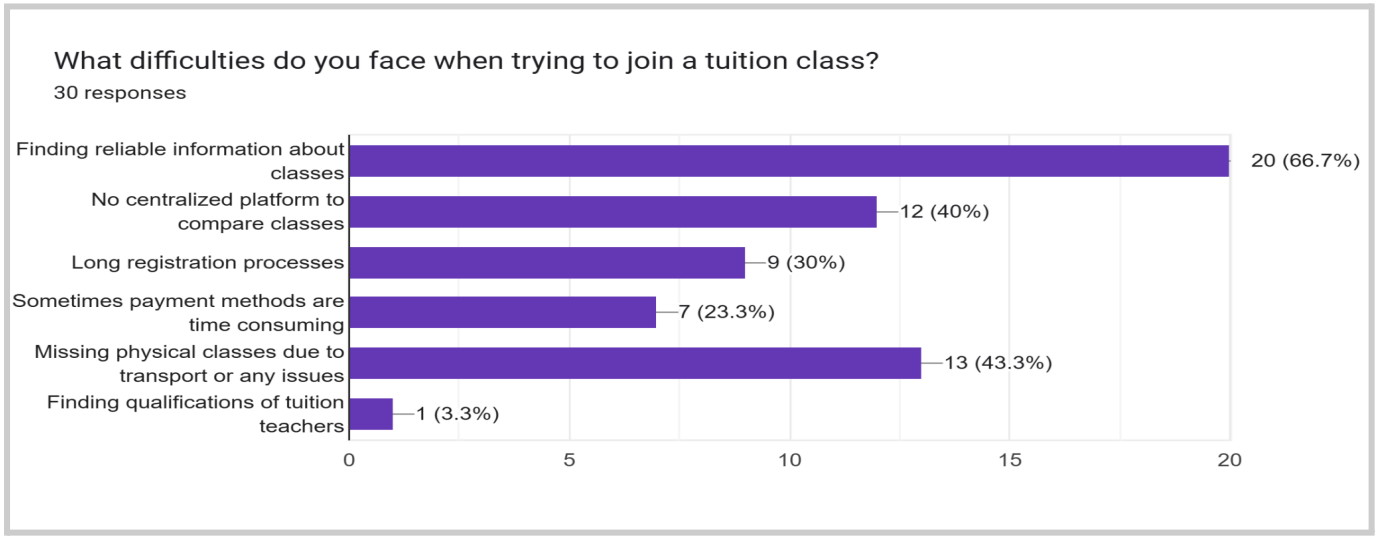


Figure 1.0



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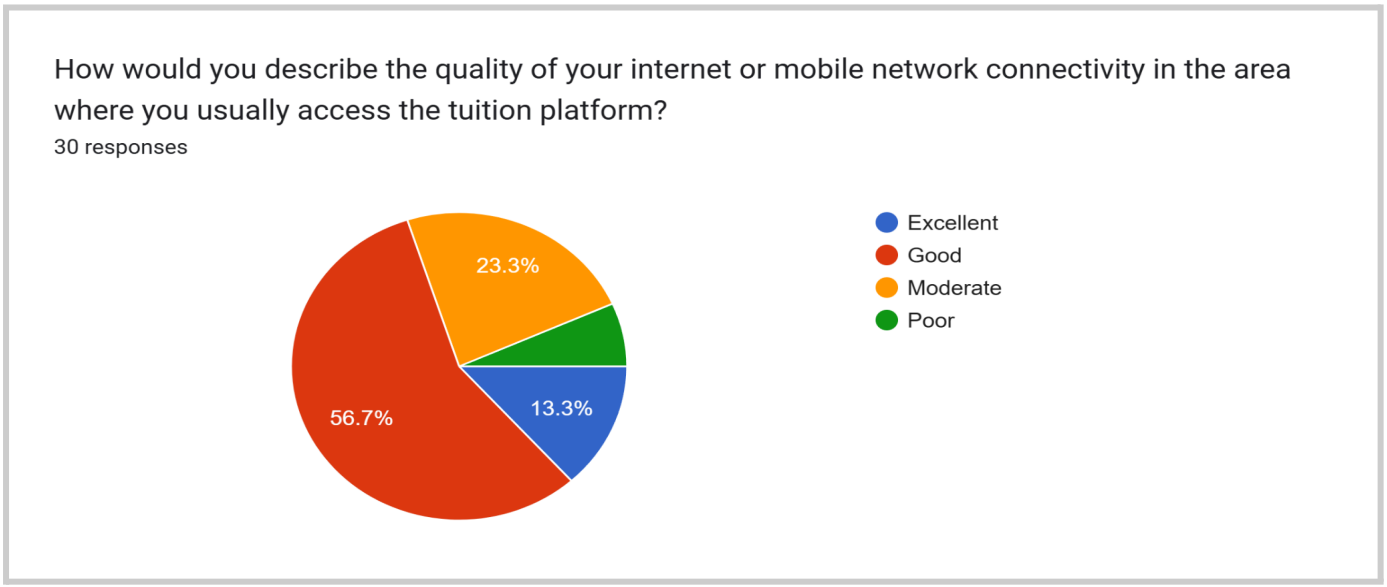

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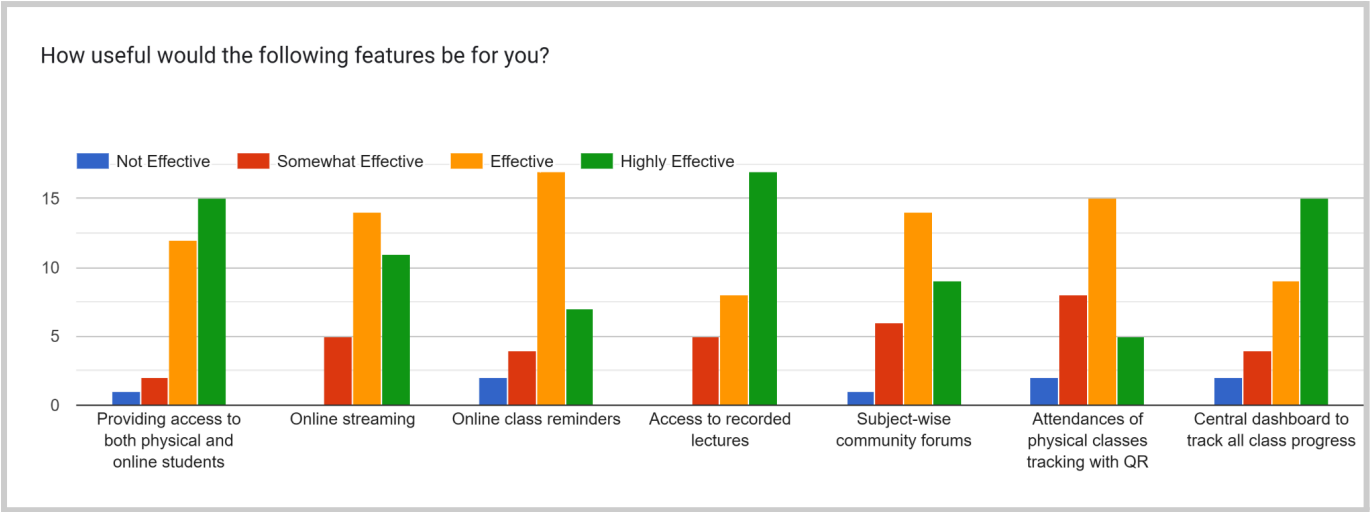

Figure 4.0

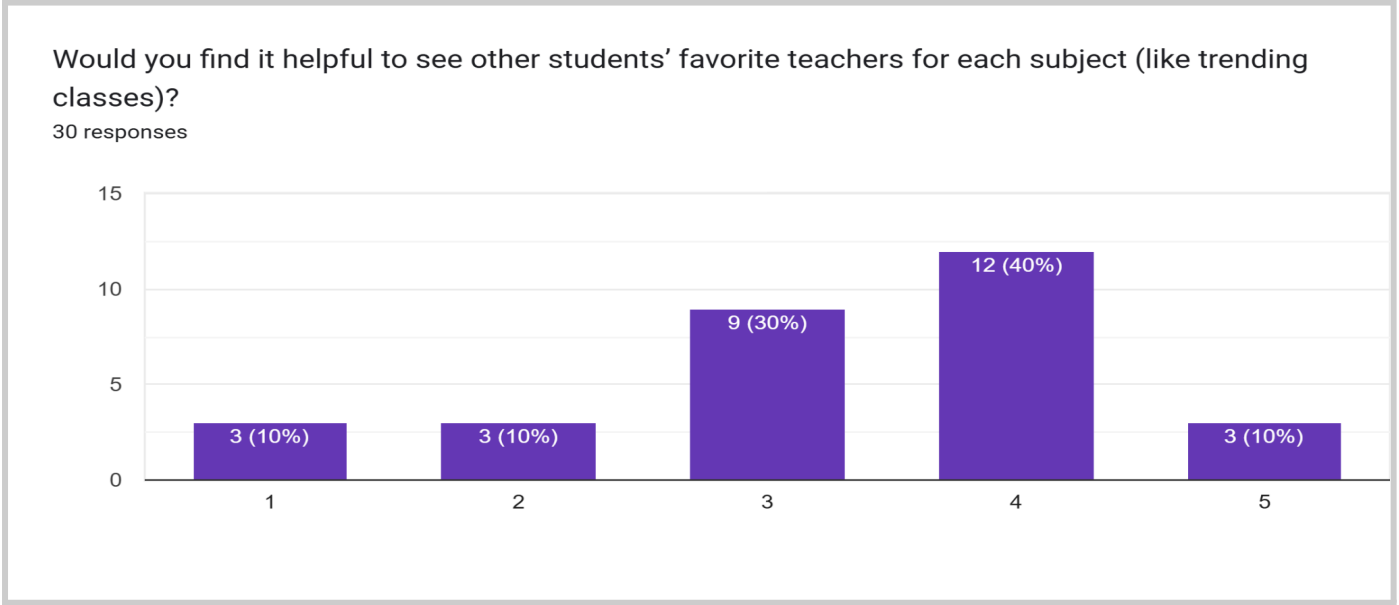

Figure 5.0

According to those responses for the particular questions,

- **80% of users regularly use smartphones** and **53.3% use laptops** to access the tuition platform, showing strong device accessibility. Additionally, **over 90% of users have at least moderate to good internet connectivity**, indicating that most users can reliably use an online system.
- In the problem statement phase we highlight challenges for students in Sri Lanka are the lack of reliable information about tuition classes and the absence of a centralized platform to compare them. So this is clear from the survey about underscoring the need for a trusted, all-in-one digital solution.
- And we added some key features to understand efficiency.Totally all features seem student friendly.

<u>Interviewing Teachers and Tuition Institutes:</u>

- Teachers who conduct their own tuition classes mainly struggle with especially lack of sharing and updating learning materials, no proper method to handle multiple classes, difficulties in tracking students' progress, lack of receiving payments etc.
- When considering institutes, most middle type tuition institutes in Sri Lanka do not have proper maintenance procedures because of the lack of supporting staff and can't handle their salaries properly. And also difficulties with receiving payments, have no proper advertising procedures.

So by survey and interviews, it is clear that most students, teachers and tuition institutes need such a platform.We can safely assume that people are willing to use our system and most of the teachers and institutes mentioned that it's better to have an online platform for better maintainable and manageable for their classes. Therefore,we assume the web project is socially feasible.

5.2. Technical Feasibility

This section evaluates the practical viability of implementing the Tuition Management System (TMS) using the chosen technical solutions. The primary deliverable of this project is a comprehensive web based platform designed to manage tuition institutes, classes, students, and related activities.

The platform will be developed using HTML, CSS, and JavaScript for the frontend interface to ensure a responsive and user-friendly experience. The backend will be powered by PHP, with MySQL serving as the relational database for securely storing user, class, and transaction data. The application will be hosted on Apache HTTP Server, which will manage PHP execution and ensure reliable service delivery

Key supporting technologies includes

- A payment gateway to securely process payments related to class registrations, institute fees, marking panel payment and teacher payments.
- Integration of QR-based attendance tracking for physical classes, and online streaming tools for virtual sessions.
- Sending notifications, reminders, and confirmations to users (students, teachers, institutes).

Most of these technologies are open source or freely accessible, enabling the team to manage costs effectively while ensuring scalability and maintainability.

The development team will need to deepen their technical skills in PHP, MySQL, and web integration before and during system construction. The project timeline allows adequate time for this learning curve, ensuring that the team can gain the necessary expertise to build and deliver a secure, functional, and high-quality platform. Continuous learning during development will help address technical challenges and ensure successful implementation of all required features.

5.3. Economic Feasibility

The Tuition Management System (TMS) requires hosting for both the web application and the associated database. The free or low-cost tiers offered by common cloud service providers or shared hosting plans are sufficient to support the system during its initial stages, when the user base and traffic levels are moderate. As more institutes, teachers, and students join the platform, it is expected that hosting and maintenance costs will increase to accommodate higher demand and ensure performance.

To keep development costs minimal, the project makes use of open-source and freely available technologies, including PHP, MySQL, HTML, CSS, and JavaScript. Additionally, free development tools such as Visual Studio Code will be used, eliminating software licensing expenses. This approach ensures that the initial cost of building and deploying the system remains low. As the platform grows and generates revenue through institute payments, advertising, or other services, these earnings can help offset the scaling costs, making the solution economically viable in both the short and long term.

5.4. Legal and Ethical Feasibility

This Tuition Management System (TMS) is designed to comply with all relevant legal and ethical standards while providing a secure and trustworthy platform for institutes, teachers, students, and marking panel members. The system ensures that user identities including those of institutes, teachers, and students are verified during registration to prevent fraudulent activities and unauthorized access. Development and deployment follow applicable legal requirements, and the platform fully complies with the licenses of the open-source technologies (such as PHP, MySQL) used in its construction.

To protect user privacy and data, TMS implements secure data storage practices, password protection, and encrypted handling of sensitive information (like passwords, personal details, or payment information) in line with standards such as GDPR or equivalent local regulations. Payment processing is transparent, with clear communication of transaction details and fees. The platform requires users to follow its terms of service to avoid misuse and ensure responsible participation. These measures help ensure that TMS operates legally, ethically, and responsibly, building trust among all users.

5.5. Scheduling Feasibility

- The development of the Tuition Management System (TMS) is planned to span a duration of 10 months.
- The estimated man-hours required for successful completion of the project can be calculated as follows:

  Weekday working hours: 5 hours
  Weekend working hours: 5 hours
  Number of group members: 4
  Number of weeks: 36
  Total man-hours: $(5 + 5) \times 4 \times 36 = 1{,}440$ man-hours

- The project will follow an iterative waterfall model, allowing for steady progress through requirement analysis, design, development, testing, and deployment phases. Since requirement gathering for TMS is nearly complete and the main features have been identified, we are confident that we can complete the remaining phases of the SDLC and deliver a functional product by March 2026.

- Furthermore, the core requirements for the platform are stable at this stage, and no major changes are expected that could disrupt the schedule. This supports the feasibility of completing the project within the planned time frame.

6. Deliverables of the Project

Upon completion of the project, the following will be delivered as the key deliverables:

Web Application

- A fully functional hosted web application with responsive and user-friendly interfaces for all end users, including students, teachers, institutes, admins, and marking panel members.

SRS Documentation

- A detailed document outlining the functional and non-functional requirements of the Tuition Management System for all user roles, ensuring clear understanding before development.

User Guide

- A basic help guide to assist new users in understanding how to use key features of the system.

Source Code

- Complete source code of the web application, developed using PHP, MySQL, HTML, CSS, and JavaScript.

7. Project Constraints and Assumptions

7.1 Project Constraints

- Not allowed to use any frameworks.
- Having to use hardware for maximum performance which cannot be implemented at this project level.
- Hosting is required to ensure the system is accessible from anywhere, allowing users such as students, teachers, and institutes to interact with the platform remotely via the internet.
- The system cannot be used without the internet because it is completely web based.
- The level of knowledge to use the system is not equal for all the users.
- When implemented in the real world, most of the areas will require a demonstration from the root.
- Having to develop the system within a very short period of time
- If a class-related request is not processed within a specified timeframe the relevant parties will be automatically notified.

7.2 Project Assumptions

- All users have access to an internet connection and own an email address.
- Valid information is published by shelters and incident reporters.
- Users are familiar and have adequate knowledge on online payment facilities.
- Users have smart devices to run the system.
- The system is available in the English language assuming that all the users are fluent and comfortable with the English language.

8. Requirements

8.1. Functional Requirements

8.1.1. System Actors with their functionalities

Guest User

- Any kind of user can visit a web site using the URL.
- View advertisements and existing classes.
- If the particular user wants to register according to the role such as teacher, student and tuition institute.

Admin

- Should be able to sign in to the system and change password.
- Should be able to logout of the system.
- Able to oversee the registration process of users.
- Ability to manage user roles and permissions.
- Ability to verify identities of the users.
- Ability to monitor user profiles.
- Ability to remove inappropriate content and profiles that violate platform guidelines.
- Ability to monitor the platform for any security vulnerabilities or suspicious activities.
- Ability to set and update system wide policies,guidelines and terms of service.
- Ability to communicate with users through platform notifications.
- Handle advertisements.
- Handle payments by getting payments from students and distribute payments among institutes and teachers.
- Approve advertisements which are sent by tuition institutes.
- Maintain students' subject wise community forums.
- Approve institutes when tuition institutes send registration requests.

Student (Super class of the Paid_students and Non_paid _students)

- The student should be able to sign in to the web site using their username and password and change password.
- Access their profile settings to update the details and maintain.
- Facilitating to register classes.
- Students can register for any class and can access learning materials, rate classes, join classes according to their preferences online or physical(only for institute classes).
- View upcoming activities as reminders.
- Ability to schedule their classes and activities.
- Ability to rate classes and there will be a subject wise community forum to get reviews from other students under control of the admin.
- After two weeks, should pay for classes using payment methods except free card students.
- Former students can apply for the marking panel according to their A/L results.

Teacher (Super class of Institute Teacher and Individual Teacher)

- A teacher can sign in to the web site using their username with password and change the password.
- Access to their profile settings to update details and maintain profile.
- Facilitating adding new classes.
- Ability to schedule their classes.
- The teacher can upload learning materials to the classes, view students' results and view requests from tuition institutes and also can accept or reject them.
- Institute teachers should approve their marking panel.
- Ability to track received payments.
- View upcoming classes and activities as reminders.

Tuition Institute

- Get approval from admin to register as an institute.
- A tuition institute can sign in to the website using their username and password.
- Maintain their profile.
- Facilitating add classes by assigning a teacher.
- Schedule all their classes.
- Manage student data.
- Track received payments and make payments for marking panels and teachers in the payment section.
- View upcoming classes and activities as reminders.

Marking panel

- After approval as a marking panel, past students can sign in to the system using received username and password. And also facilitating change of the password.
- Facilitating add marks to the system and view results.
- When an institute class will conduct an exam, the marking panel members can view Dates as reminders.
- Ability to track their received payments.

8.1.2. Use case Diagram

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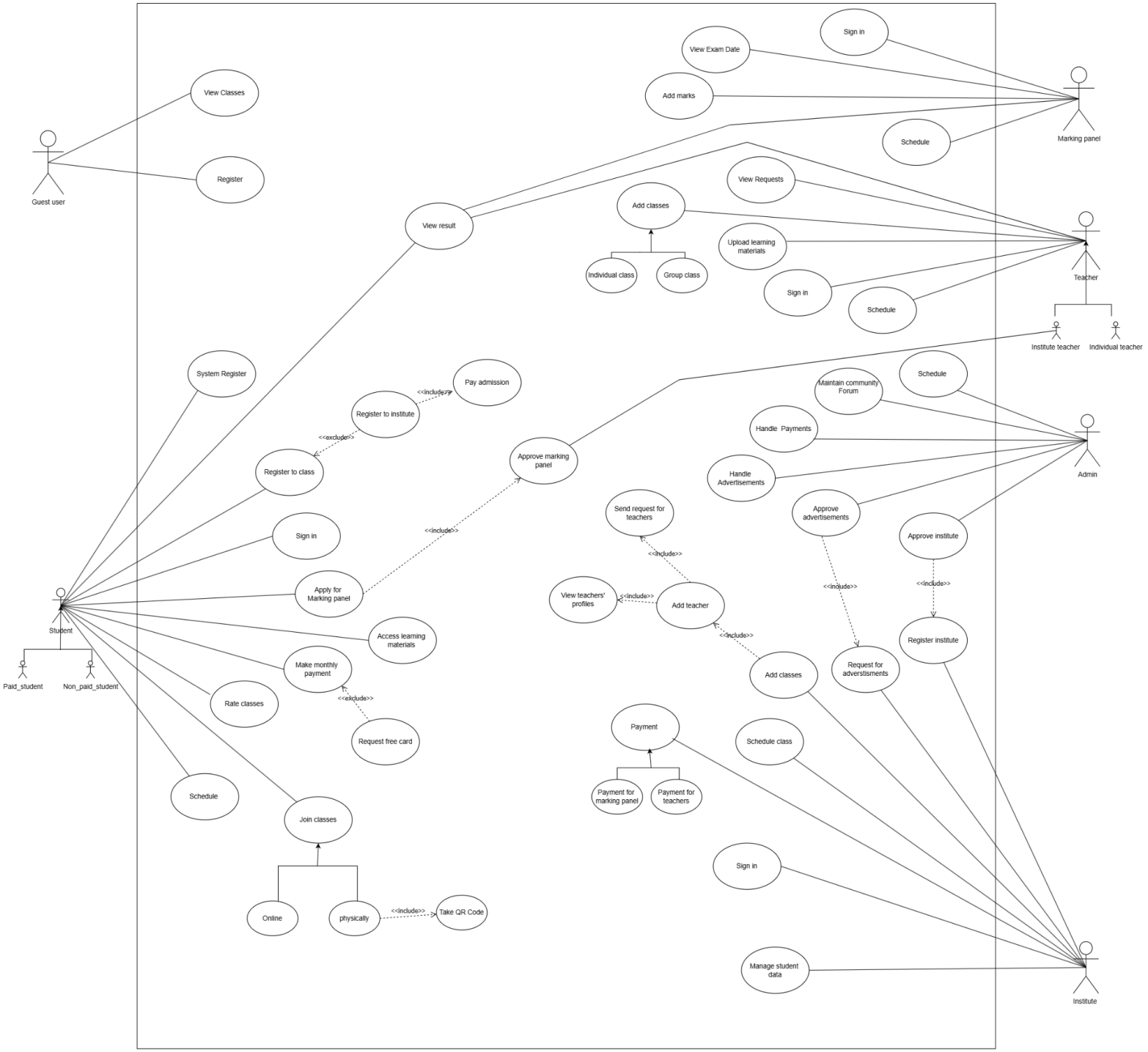
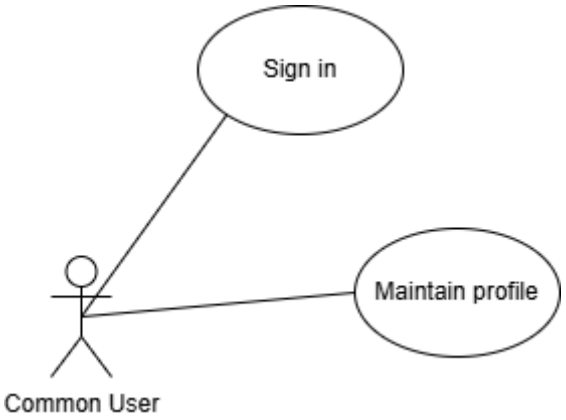


8.1.3. Use case Descriptions

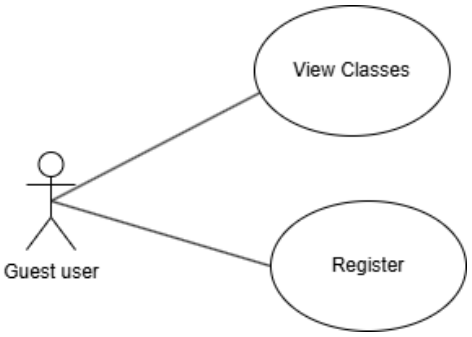
Common Users



Use case	Sign in	Summary: Guest users visit the website and enter user's details and then get logged into the platform.
Use case ID	01	
Actors	Students, Teachers, Tuition Institutes, Marking Panel, Admin	
Preconditions	Users must have visited the web application and have been registered before.	
Description	1. A guest user visits the website using the user's browser. 2. In the landing page there is an option to login and the user clicks it. 3. The user enters his/her login credentials and clicks submit. 4. The user will be directed to his dashboard.	
Exception	The user will be indicated with an error message if the user has entered incorrect credentials.	
Post Conditions	The user's dashboard will be shown in the console.	

Use case	Maintain Profile	Summary: Guest users visit the website and enter the user's details and get registered on the platform.
Use case ID	02	
Actors	Students, Teachers, Tuition Institutes, Marking Panel, Admin	
Preconditions	Users must have visited the web application and have been registered before.	
Description	1. The relevant user visits the website using the user's browser and gets logged in. 2. In the user's dashboard he clicks the user's profile icon. 3. The user will be directed to the edit profile page. 4. The user can update any details relevant to the user's profile afterwards.	
Exception	The user will be indicated with an error message if the user has entered incorrect credentials.	
Post Conditions	The user’s profile will be shown with the changes being applied.	

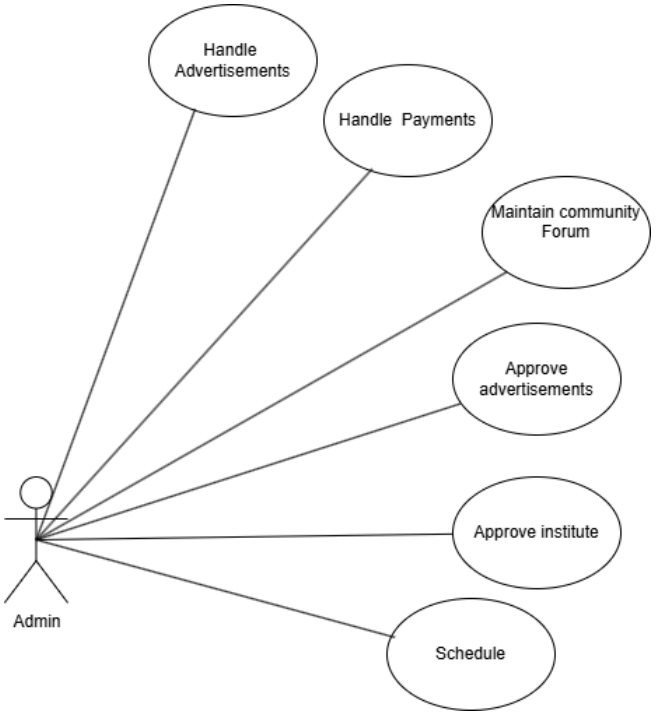
Guest Users



Use case	View Classes	Summary: Guest users visit the website and view classes
Use Case Id	03	
Actors	Guest user	
Preconditions	Users must visit the web application.	
Description	1. A guest user visits the website via a URL. 2. In the landing page there is a slide show of advertisements of institutes. 3. There is a search bar that allows users to search for classes, and they can view the available classes based on their search.	
Expectation	-	
Post Conditions	Should login into the system to view detailed information regarding the classes	

Use case	Register	Summary: Guest users visit the website and enter the user's details and get registered on the platform
Use case ID	04	
Primary Actors	Guest User	
Preconditions	User must visit the web application	
Description	1. A guest user visits the website via a url. 2. On the landing page there is an option to register on the platform. 3. The user sees that option and clicks it. 4. The user will be directed to a form to be filled with the user's credentials and 'type of that user'. 5. The user fills the form and clicks on the submit button.	
Exception	The user will be indicated with an error message(for invalid info).	
Post Conditions	A confirmation email will be sent to the user's email.	

Admin



Use case	Approve advertisements	Summary: View advertisement requests and approve or reject based on the content.
Use case ID	05	
Actors	Admin, Institute	
Preconditions	The institute must be requested for the advertising.	
Description	1. Institutes request for registration. 2. Admin directed to the admin dashboard. 3. Then the admin navigates to the “Promotional Requests” page. 4. Admin can view all requests he/she received from institutes. 5. Can be able to select the requests to view them in detail. 6. After considering the details, the admin can click the “Approve” button or “Reject” button according to the preference.	
Exception	The system should display the message 'No requests available' when there are no requests to show.	
Post Conditions	The system updates the status of the request to either "Approve" or "Reject" based on the admin’s action.	

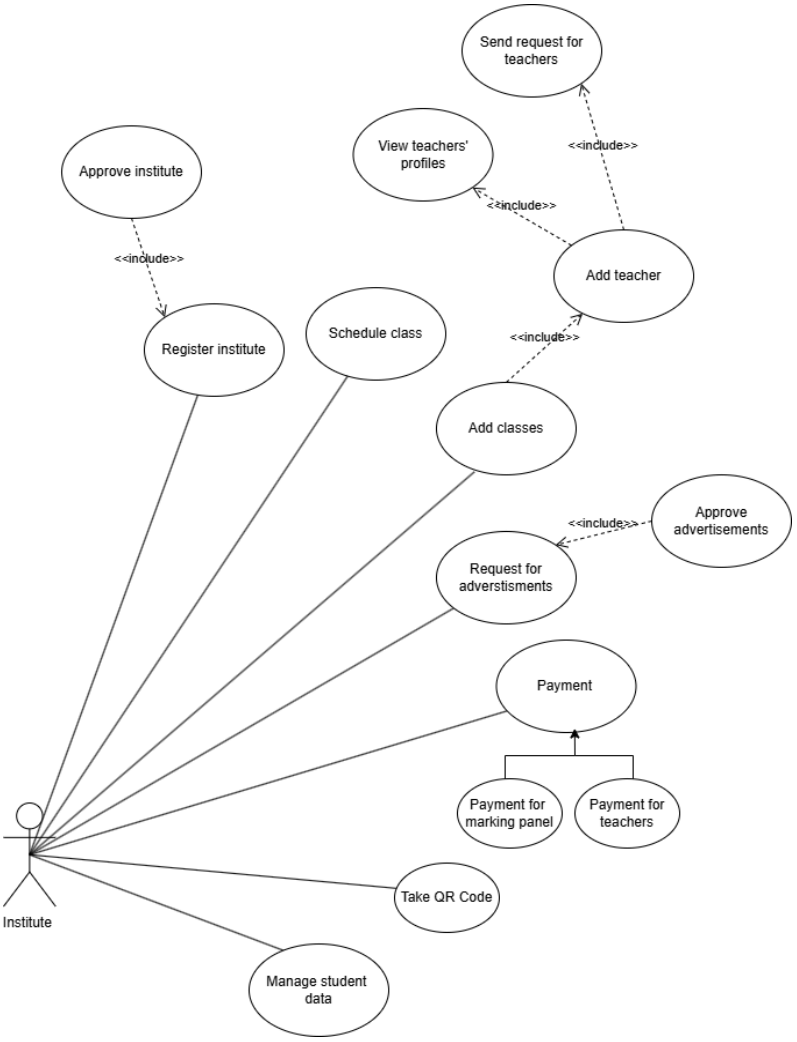
Use case	Approve Institutes	Summary: View institutes' requests and approve or reject considering the content.
Use case ID	06	
Actors	Admin, Institute	
Preconditions	The institute must be requested for the registration.	
Description	1. Institutes request for registration. 2. Admin directed to the admin dashboard. 3. Then the admin navigates to the "Registration Requests" page. 4. Admin can view all requests he/she received from institutes. 5. Can be able to select the requests to view them in detail. 6. After considering the details, the admin can click the "Approve" button or "Reject" button according to the preference.	
Exception	The system should display the message 'No requests available' when there are no requests to show.	
Post Conditions	The system updates the status of the request to either "Approve" or "Reject" based on the admin's action.	

Use case	Schedule	Summary: The admin can view and edit their class time table and activities.
Use case ID	07	
Actors	Admin	
Preconditions	The admin must be registered and logged into the system.	
Description	1. The admin must sign in to the system. 2. Directs to the admin's dashboard. 3. Navigates to the "Schedule" page. 4. The admin can view and be able to edit the calendar.	
Exception	-	
Post Conditions	The admin should be able to view the calendar and edit it according to the preference.	

Use case	Handle Payments	Summary: Admin gets payments from students. And distributes that income between individual teachers and institutes.
Use case ID	08	
Actors	Admin	
Preconditions	Admin must be logged into the system. Students must have made payments through the designated payment methods.	
Description	1. Admin logs into the system. 2. Admin directed to the admin dashboard. 3. Navigate to the “Payments” section and click it. 4. The system displays records of student payments. 5. Admin verifies the received payments. 6. Admin views the earnings breakdown for individual teachers and institutes. 7. Admin distributes the appropriate amounts to individual teachers and institutes. 8. The system updates payment status and logs the transaction details.	
Exception	Trying to access payment functions without admin access shows an “Access Denied” message.Missing or incorrect payment records trigger an error message.Errors in distribution calculations display a system warning.	
Post Conditions	Payments are marked as completed. Teachers and institutes receive their respective shares. All transactions are recorded and stored for reference.	

Use case	Maintain community forum	Summary: Admin maintains the subject wise student community forum.
Use case ID	09	
Actors	Admin	
Preconditions	Admin must be logged into the system.	
Description	1. Admin logs into the system. 2. Admin navigates to the “Community Forum” section and clicks it. 3. Admin views available subject-wise forums. 4. Then the admin can create new forums, edit forum details, or delete outdated/inactive forums. 5. Admin can monitor posts, remove inappropriate content, and manage user access.	
Exception	Attempting to access the forum management section without admin privileges shows an “Access Denied” message.Failing to load forum data due to a technical error shows an error message.	
Post Conditions	Subject-wise community forums are updated, moderated, and accessible to relevant students. Forum changes are saved and reflected system-wide.	

Tuition Institutes



Use case	Add classes	Summary: Tuition Institute adds classes by assigning a teacher.
Use case ID	10	
Actors	Tuition Institute	
Preconditions	An institute must register as an institute to the platform.	
Description	1. Tuition institutes login to the system. 2. Directed to the tuition institute's dashboard 3. Tuition Institute navigates to the "Add Class" page. 4. The institute views teachers' profiles and sends requests to teachers. 5. Tuition Institute fills the class details.	
Exception	The system should handle invalid or incomplete class details and prompt the tuition institute to correct them.	
Post Conditions	The class is created and available for viewing by other users.	

Use case	Add teacher	Summary: Institutes should add teachers for their classes according to the acceptance.
Use case ID	11	
Actors	Tuition Institute, Teachers	
Preconditions	An institute must add a class.	
Description	1. The Institute selects the "Add Class" option. 2. Institute directs into the "Add Teacher" page. 3. The Institute is able to view teachers' profiles.	
Exception	-	
Post Conditions	The Institute can view teachers' profiles.	

Use case	View teachers' profiles	Summary: An institute can be able to search for teachers.
Use case ID	12	
Actors	Tuition Institutes, Teachers	
Preconditions	The institute must be directed into the "Add Teacher" page.	
Description	1. The system will display a list of existing teachers in the "Add Teacher" page. 2. The institute can either directly select teachers or search for them by name and subject to view their profiles.	
Exception	The system should handle cases where no teacher profiles are available and display an appropriate message.	
Post Conditions	Institute views detailed information about selected teachers.	

Use case	Send requests to teachers	Summary: The institute be able send requests to teachers to add for classes
Use case ID	13	
Actors	The tuition institute	
Preconditions	The institute must select a teacher in "View teachers" page	
Description	1. The institute directs to "View teachers" page 2. The institute selects teacher 3. The institute clicks "Request" button 4. Request sent successfully page loads	
Exception	-	
Post Conditions	The request sent successfully page loads	

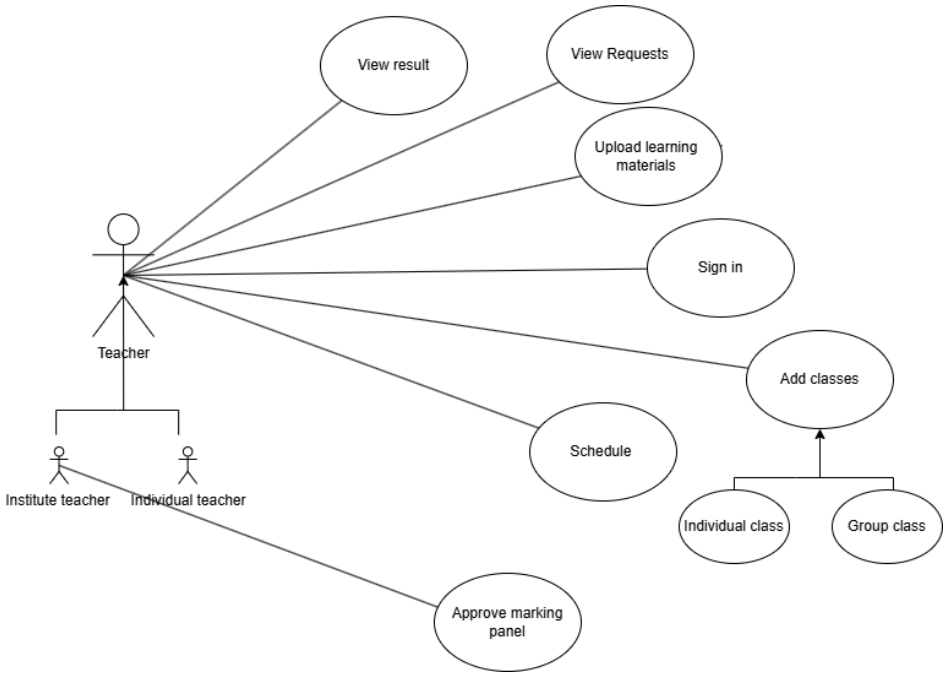
Use case	Request for advertisements	Summary: An institute request for advertisements from the admin.
Use case ID	14	
Actors	Tuition institute , Admin	
Preconditions	An institute must be registered into the system as an institute.	
Description	1. The tuition institute logged in to the system. 2. Directed to the tuition institute's dashboard 3. Navigates to the "Promotion" page and selects the Request Advertisement button. 4. The institute fills in the required advertisement details 5. The request is submitted to the admin	
Exception	The system should handle invalid or incomplete details and prompt the tuition institute to correct them.	
Post Conditions	The system displays a confirmation that the request has been sent.	

Use case	Schedule classes	Summary: An institute can view and edit their class time table.
Use case ID	15	
Actors	Tuition Institute	
Preconditions	The tuition institute must be registered and logged into the system.	
Description	1. The tuition institute logs into the system 2. Directs to the institute's dashboard 3. Navigates to the "Schedule Class" page 4. The institute can view and be able to edit the calendar.	
Exception	-	
Post Conditions	Institute be able to view the calendar	

Use case	Manage students data	Summary: The tuition institute be able to view and edit student details
Use case ID	16	
Actors	Tuition institute	
Preconditions	The tuition institute must be registered and logged into the system.	
Description	1. The tuition institute login to the system 2. Directs to tuition institute's dashboard 3. Navigating to the "Manage Students Detail" page 4. The institute is able to view and edit student data.	
Exception	The system should handle invalid or incomplete student details and prompt the tuition institute to correct them.	
Post Conditions	The system must display the edited details of the students.	

Use case	Payment	Summary: The tuition institute makes payments for teachers and marking panels.
Use case ID	17	
Actors	The tuition institute	
Preconditions	The tuition institute must be registered and logged into the system.	
Description	1. The tuition institute login to to the system 2. Directs to the institute's dashboard 3. There is an option called "Payment" and institute clicks it 4. Navigating to the "Payment" page 5. In the payment page there are two options called "Payment to Teachers" and "Payment to Marking panel" 6. When the institute clicks the "Payment to Teachers" page, names of the teachers with the class they conduct displays in the page and be able to select the names 7. When the institute clicks the "Payment to Marking panel" page, the names of the marking panel staff and the class they work displays in the page and be able to select the names. 8. Institute be able to make the payment in accordance to it selection 9. Payment successful page loads.	
Exception	The system should handle payment failures and inform the user accordingly.	
Post Conditions	The marking panel and teachers will be notified about the payment.	

Teachers



Use case	Add Classes	Summary: The teacher adds a new class.
Use case ID	18	
Actors	Teacher	
Preconditions	Teacher must be registered as a teacher to the platform	
Description	1. Teacher login to the system 2. Directed into the teacher's dashboard 3. Teacher navigates to "Add class" page 4. Teacher be able to create a class	
Exception	The system should handle invalid or incomplete class details and prompt the tuition institute to correct them.	
Post Conditions	Class is created and able to be viewed by other users.	

Use case	Uploading learning materials	Summary: Teacher uploading learning materials to the system.
Use case ID	19	
Actors	Teachers	
Preconditions	Teachers must login to the system.	
Description	1. The teacher logs in to the system. 2. The teacher is being able to view the classes 3. Selecting the class and directing to the relevant class page. 4. The teacher can view an option as “Learning materials” 5. The teacher can upload relevant learning materials by selecting the topics.	
Exception	The system should handle invalid or incomplete sections and prompt the tuition institute to correct them.	
Post Conditions	Students are being able to access the learning materials.	

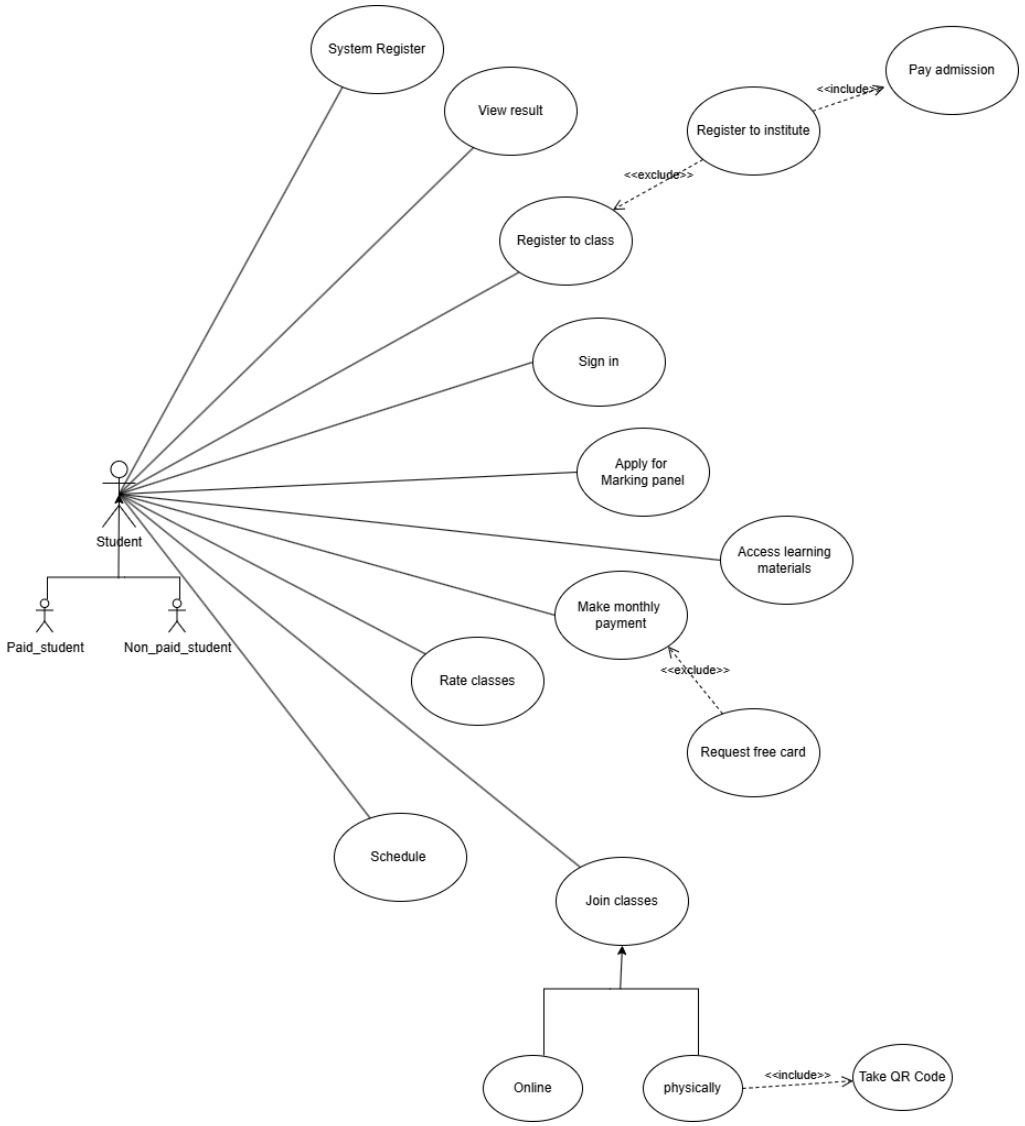
Use case	View Requests	Summary: Teachers can view requests sent to them by institutes.
Use case ID	20	
Actors	Teacher	
Preconditions	Teachers must be logged into the system to view requests.	
Description	1. The teacher will log into the system. 2. In the teachers' dashboard, there is an option called "Requests"and navigates to the "Requests" page. 3. Teachers can view a list of all requests sent by institutes. 4. The teacher can direct any request by clicking the requests. 5. A request consists of details of the class and institute with "Accept" and "Reject" Buttons. 6. The teacher can click those buttons according to preference.	
Exception	The system should display the message 'No requests available' when there are no requests to show.	
Post Conditions	The system updates the status of the request to either "Accept" or "Reject" based on the teacher's action.	

Use case	View results	Summary: Teachers can view the list of results of students.
Use case ID	21	
Actors	Teacher	
Preconditions	Teacher must be logged into the system	
Description	1. The teacher logs into the system 2. The teacher directs in to the dashboard and can able to view the classes 3. The teacher selects the class and directed to relevant class page 4. The teacher able to select the option "Grades" 5. System displays the list of marks of students	
Exception	If there is no information related to grades, the system has to display "no records found".	
Post Conditions	Teachers are able to view the marks of students as a list.	

Use case	Approve Marking panel	Summary: Institute teachers can approve past students as a marking panel.
Use case ID	22	
Actors	Institute Teacher, Student	
Preconditions	The teacher must be logged into the system and must receive applications.	
Description	1. The teacher logs into the system and then directs into the dashboard and there is a button called “Marking panel”. 2. After clicking the Marking Panel button, there is a button called “Request Applications”. 3. Directs to “Request Applications” and the teacher can view a list of all request applications sent by students. 4. The teacher can direct any request application by clicking the requests. 5. A request application consists of details of the applicant with “Approve” and “Reject” Buttons.The teacher can click those buttons considering the details. 6. When a particular student is approved for the marking panel, the system gives a username and password to sign in as a marking panel member.	
Exception	The system should display the message 'No request application available' when there are no requests to show.	
Post Conditions	The system updates the status of the request to either "Approved" or "Rejected" based on the teacher's decision. When Approved send back a username and password to sign in as marking panel	

Use case	Schedule	Summary: A teacher can view and edit their class time table and activities.
Use case ID	23	
Actors	Teacher	
Preconditions	The teacher must be registered and logged into the system.	
Description	5. The teacher logs into the system 6. Directs to the teacher's dashboard 7. Navigates to the "Schedule" page 8. The teacher can view and be able to edit the calendar.	
Exception	-	
Post Conditions	The teacher should be able to view the calendar and edit it according to their preferences.	

Students


System Register
View result
Pay admission
<<include>>
Register to institute
<<exclude>>
Register to class
Sign in
Apply for
Marking panel
Student
Access learning
materials
Make monthly
payment
Paid_student
Non_paid_student
Rate classes
<<exclude>>
Request free card
Schedule
Join classes
Online
physically
<<include>>
Take QR Code

Use case	View Results	Summary: Students can view their marks relevant to the class.
Use case ID	24	
Actors	Students	
Preconditions	Students must be logged in to the system.	
Description	1. The student logs into the system 2. Directs to student's dashboard and able to view the classes 3. The student selects the class and directed to relevant class page 4. The student can click the option "Grades" and view the marks.	
Exception	If there is no information related to Grades, system has to display "no records found"	
Post Conditions	Students are able to view the marks.	

Use case	Register to class	Summary: Students getting registered to classes
Use case ID	25	
Actors	Students	
Preconditions	Students must be registered to the system as a student.	
Description	1. The student logs into the system 2. The student be able to view the recommending classes and can find the search bar in the page 3. The student can search for the classes. 4. The student selects the class and directed to the relevant class page 5. The student can view the class details and join button 6. The student can join the class by clicking the join button and providing relevant details 7. Institute students will be directed to register institute page	
Exception	The system should handle invalid or incomplete sections and prompt the student to correct them.	
Post Conditions	Students can view the class they have registered in their page and institute students directed to register institute page	

Use case	Register to institute	Summary: Institute students get registered to the institute as students of the relevant institute.
Use case ID	26	
Actors	Students, Institute	
Preconditions	Students must be registered as a student to the system and registered to the class of the relevant institute.	
Description	1. The student selects the class and directed to class page 2. The student clicks the register button and directed to the register institute page 3. The student provide the relevant details to get registered to institute 4. Clicks the register button 5. The system loads the successful page	
Exception	The system should handle invalid or incomplete student details and prompt the tuition institute to correct them.	
Post Conditions	Students have to be directed to pay admission page	

Use case	Pay Admission	Summary: Institute students successfully make the payment of admission for the tuition institute.
Use case ID	27	
Actors	Students	
Preconditions	Students are required to visit the ‘Register Institut” page	
Description	1. The student directed from the register institute page 2. The student makes the payment as admission for the relevant selected class. 3. System loads the successful payment page	
Exception	The student will be notified with warnings or A/C banning if they have provided any comment or review that violates platform rule	
Post Conditions	Students are able to access the selected class for 2 weeks of time on their page.	

Use case	Accessing learning materials	Summary: Students are being able to access the learning materials of the classes they have enrolled
Use case ID	28	
Actors	Students	
Preconditions	Students required to log in to the system.	
Description	1. The student logs in to the system 2. Directed to dashboard and click My classes 3. The system loads the My classes page. 4. The student clicks the class and directed to the selected class's page 5. There is an option called "Learning Materials" on the page the student clicks it and being able to view the materials in related to topic	
Exception	-	
Post Conditions	Students being able to view and access the learning materials	

Use case	Make monthly payment	Summary: Students make monthly payments to the classes successfully.
Use case ID	29	
Actors	Students	
Preconditions	Students required to logged in to the system and registered to the relevant class	
Description	1. The student logs in to the system. 2. The Students' dashboard has an option called "My Classes" and directs it. 3. Then the student can view the list of all classes he/she registered with the button "Pay". 4. After clicking this button navigates to show payment methods. 5. Then there are several payment methods. 6. After the payments the "Pay" switched to "Join".	
Exception	The student will be notified with warnings or A/C banning if they have provided any comment or review that violates platform rule.	
Post Conditions	Students successfully pay for the monthly classes.	

Use case	Request for free card	Summary: Students can request to get a free card for monthly classes considering economical inconveniences.
Use case ID	30	
Actors	Student	
Preconditions	The student must select “Request for free card” as payment method.	
Description	1. After selecting the “Request for free card”. 2. Direct the page to add details about your family income approval document by grama niladhari and the institute teacher will consider and approve or reject it. 3. After getting approval, the system payment method of the particular student will be “Free Card”. 4. Students can select the “Free Card” option and join the class.	
Exception	The system should handle invalid or incomplete details and prompt the tuition institute to correct them.	
Post Conditions	Students successfully adjust the payment method as “Free Card”.	

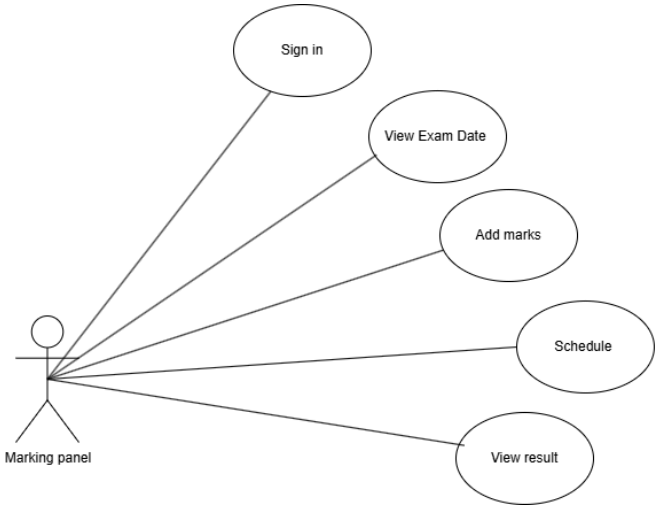
Use case	Rate class	Summary: Students are able to give ratings for the classes they have enrolled.
Use case ID	31	
Actors	Student	
Preconditions	The student must be logged in to the system	
Description	1. The student logs in to the system 2. Directed to the dashboard and selects My Classes 3. When the student opens a class, there will be a pop-up appears asking the student to rate the class.(stars 1-5) 4. The student selects a rating (stars) 5. The student submits the rating via the pop-up.	
Exception	-	
Post Conditions	The rating is stored in the system and can be viewed by the other users.	

Use case	Join classes	Summary: Students attending the classes based on the class schedule.
Use case ID	32	
Actors	Students	
Preconditions	Students required to log in to the system	
Description	1. The student logs in to the system 2. Directed to the dashboard and there will be an option called “My classes”. 3. The system will navigate to the “My classes” page. 4. The online student be able view an option called class links and click it 5. The physical student be able to view an option called "Take QR” 6. The student can click the link to join for the online classes 7. The system will load the online streaming class.	
Exception	System will prompt error message if there is any error while streaming	
Post Conditions	Students are able to join the live classes.	

Use case	Apply for Marking panel	Summary: Passed institute students of irrelevant class being able to apply for the marking panel.
Use case ID	33	
Actors	Student	
Preconditions	Students must be registered as students to the system and have enrolled to the relevant class in the past.	
Description	1. The student logs into the system 2. The system loads the student's page and there will be a search bar to search for classes. 3. The student search for class and select a class 4. The student can find a button called "Apply for marking panel" 5. The student clicks it and system loads to the Apply for marking panel page. 6. In this page there will be a form with some details and documents to get from students like their A/L result sheet etc. 7. After filling the form, students can submit it. 8. After submitting, a confirmation is shown and the application status is marked as "Pending." 9. Once the teacher reviews and approves, the status changes to "Approved." or "Rejected". 10. When the student clicks the "Approved" button, show the steps the student wants to follow to get username and password with a link for sign as marking panel and then student can change password his/her preference.	
Exception	The system should handle invalid or incomplete details.	
Post Conditions	Once approved, the student's credentials are securely sent to their registered email, and access to the marking panel is granted. Otherwise rejected students should view status as "Rejected".	

Use case	Schedule	Summary: A student can view and edit their class time table and activities.
Use case ID	34	
Actors	Student	
Preconditions	The Student must be registered and logged into the system.	
Description	1. The student logs into the system 2. Directs to the student's dashboard 3. Navigates to the "Schedule" page 4. The student can view and be able to edit the calendar.	
Exception	-	
Post Conditions	The student should be able to view the calendar and edit it according to their preferences.	

Marking Panel

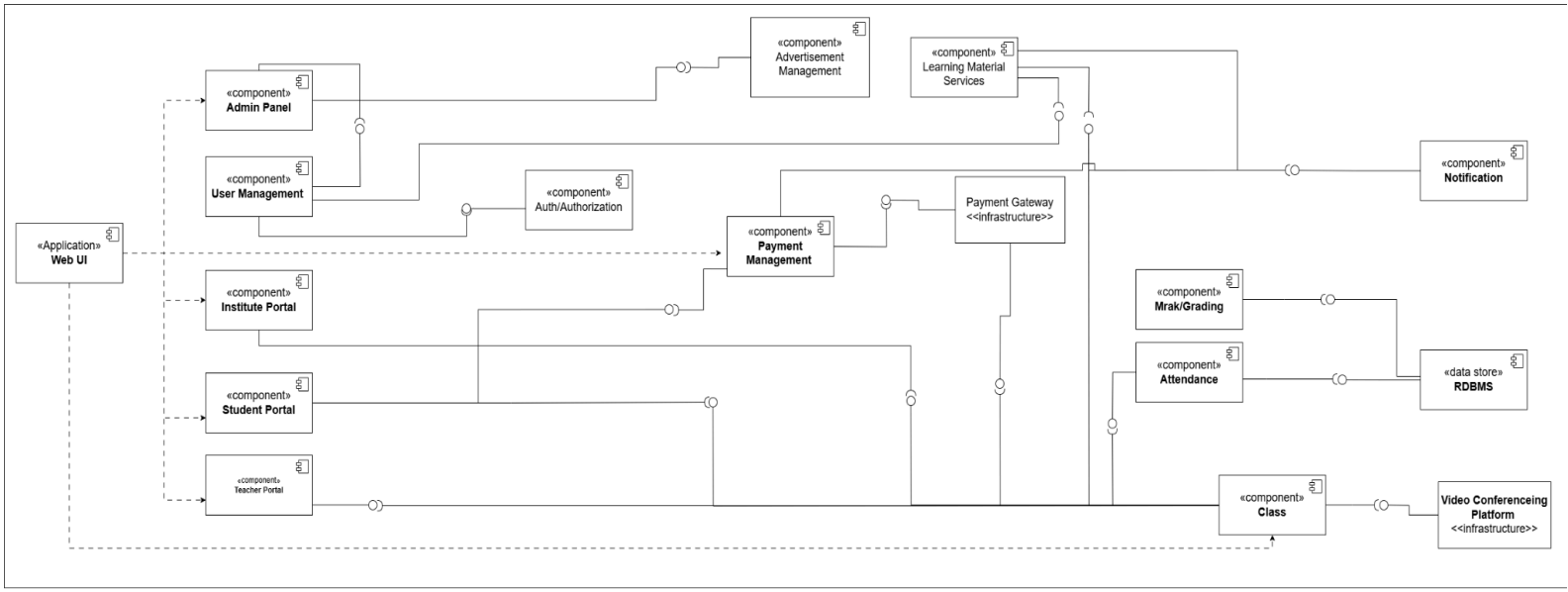


Use case	Add marks	Summary: Marking panel facilitating with adding marking to the system.
Use case ID	35	
Actors	Marking Panel	
Preconditions	After getting the approval, marking panel students must sign in to the system using provided username and password.	
Description	1. After getting the approval, former students must sign in to the system as a marking panel. 2. The system provides two types of exams such as writing and quizzes. 3. The marking panel is full responsible for marking written exam papers manually. 4. Then they want to add marks for the system.	
Exception	-	
Post Conditions	All marks of the particular exam are successfully added into the system.	

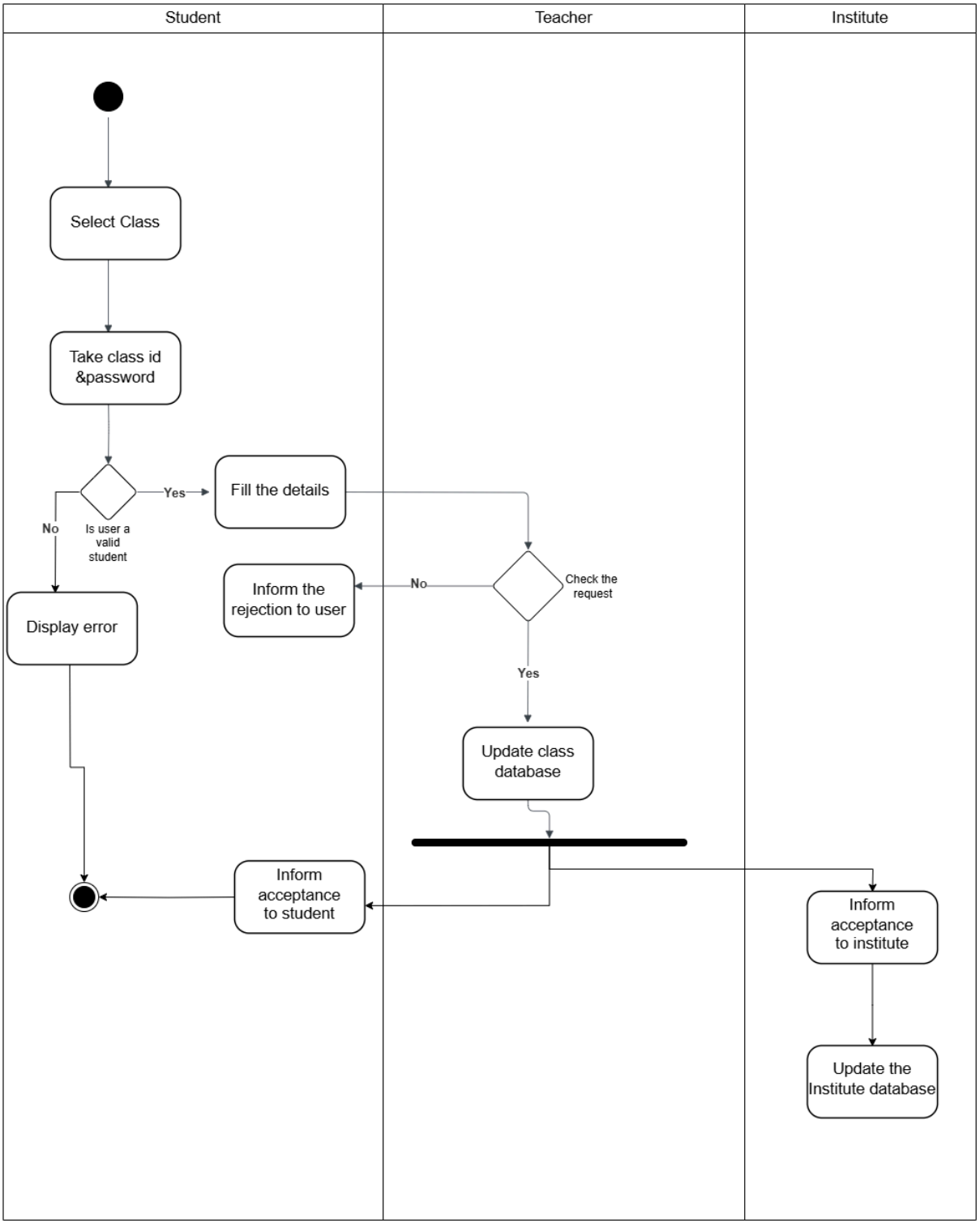
Use case	View Exam Dates	Summary: The Marking Panel can view the exam dates to invigilate the exam hall.
Use case ID	36	
Actors	Marking panel	
Preconditions	The marking Panel member must sign in to the system.	
Description	1. The marking panel member should be able to sign in to the system. 2. Then there is an option called “Reminders”. 3. Then the user directs to the “Reminders” page. 4. Then ability to view exam dates as a list of notifications. 5. The marking panel member can view each notification by clicking them.	
Exception	-	
Post Conditions	The marking panel members can be aware about the exam dates without any conflict.	

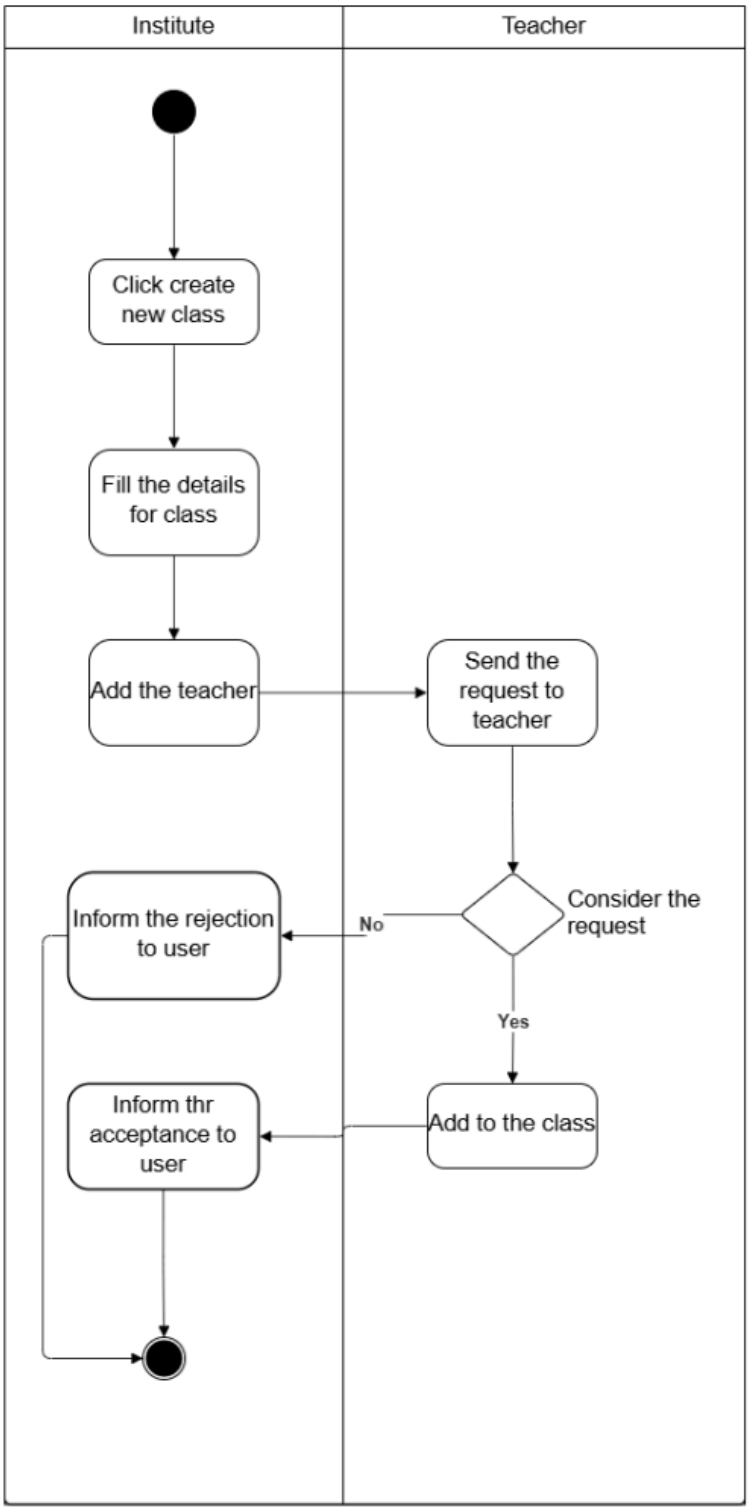
8.1.4. Component Diagram

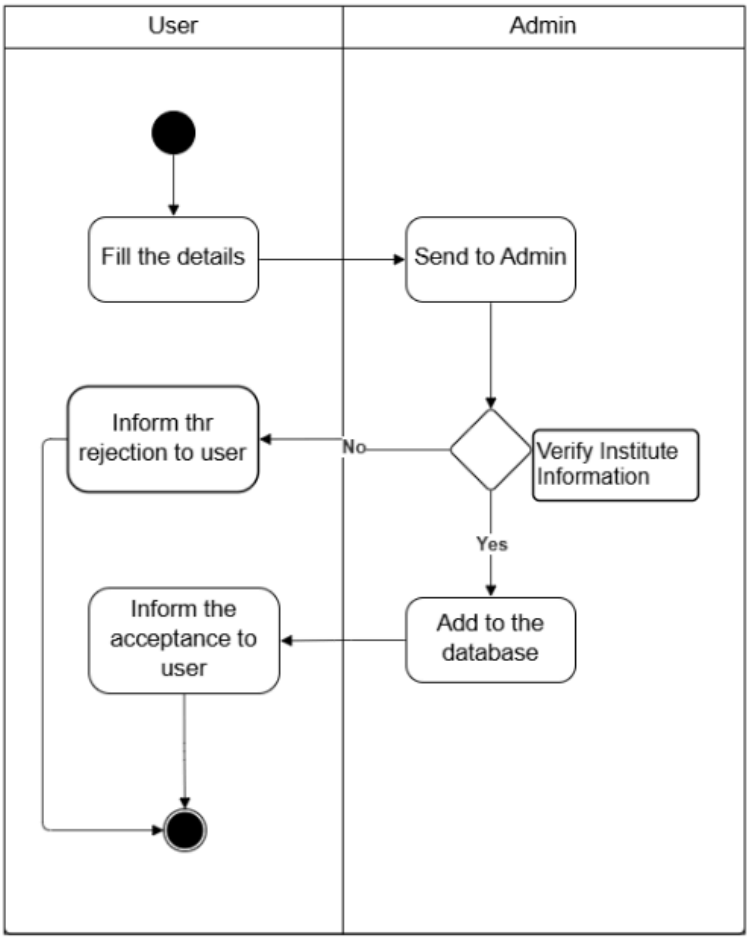
https://drive.google.com/file/d/1VvlJbLDoUxOI0goD42_GzTHkXl1QH9jr/view?usp=sharing



8.1.5. Activity Diagram




Institute
Teacher
Click create new class
Fill the details for class
Add the teacher
Send the request to teacher
Consider the request
No
Yes
Inform the rejection to user
Inform thr acceptance to user
Add to the class


User
Admin
Fill the details
Send to Admin
Inform thr rejection to user
No
Verify Institute Information
Yes
Inform the acceptance to user
Add to the database

8.2 Quality Requirements

8.2.1 Usability

The Tuition Management System will be used by a wide range of users, including students, teachers, institute staff, and marking panel members many of whom may not be highly familiar with technical systems. To accommodate this, the platform will feature a clean, simple, and user-friendly interface that minimizes complexity and allows users to access key functionalities with ease. Clear navigation, intuitive layout, and consistent design will help all users, especially those from non-technical backgrounds navigate the system efficiently. Additionally, comprehensive user guides and help sections will be provided to support users in managing class registrations, accessing learning materials, submitting payments, and using other advanced features.

8.2.2 Availability

The system will be available 24/7 to support all user activities, such as class scheduling, payment processing and learning material access. High availability is critical to ensure that users across different time zones or with varying schedules can interact with the platform without interruption.

8.2.3 Security

- All users will be authenticated through secure login credentials.
- Only registered institutes, teachers, students, and marking panel members will be able to access the system's internal features, while others must receive admin approval.
- Password policies will enforce secure practices such as minimum length and complexity.
- User login credentials will be encrypted using secure hashing algorithms such as MD5 or better practices depending on implementation updates.
- Online payments will be handled through secure, trusted gateways with encryption to ensure transaction safety.

8.2.4 Performance

- Browser and server-side caching mechanisms will be implemented to minimize page load times and enhance responsiveness.
- Optimized assets such as compressed images will reduce bandwidth consumption and improve loading speed.
- By avoiding unnecessary third-party frameworks, the system will reduce HTTP requests and redirects, improving overall performance and load efficiency.

8.2.5. Scalability

- The system will be designed in a modular way to support future growth, allowing it to handle increasing numbers of A/L students, teachers, and tuition institutes from across the island.
- Database normalization techniques will be applied to efficiently organize data, minimize redundancy, and support future scalability by ensuring the system can handle growing volumes of structured data.

9. Technologies To Be Used

9.1 Web Application

- Front End Development - HTML, CSS, and JavaScript
- Backend Implementation - PHP
- Database - MySQL (Query Language)
- Web Server - Apache
- Code Editor - Visual Studio Code

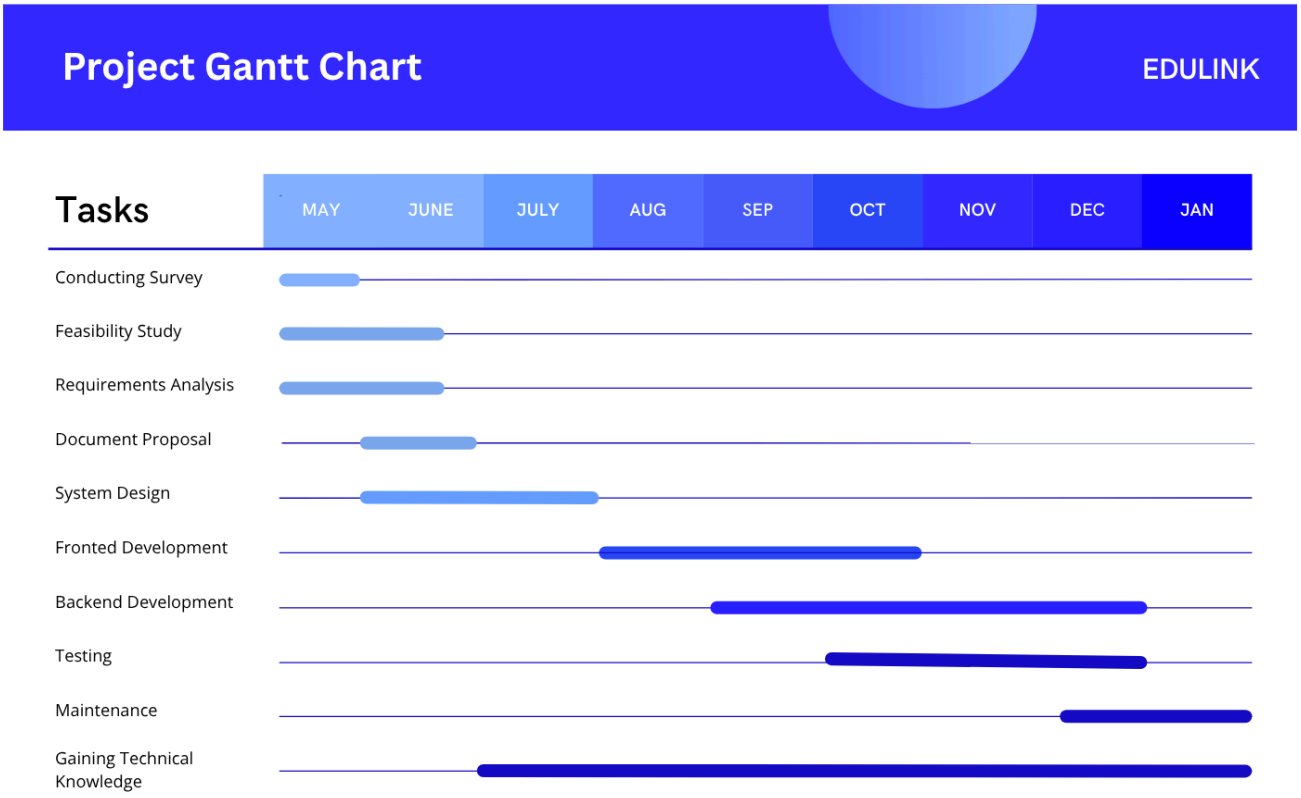
9.2 General

- Version Control System - Git
- Distributed Version Control and Source Code Management - GitHub
- Project Management – Calendy, Trello
- Team Communication - Discord, WhatsApp, Zoom, Google Meet
- Documentation - Google Drive
- Designing Tools - Draw.io, Figma
- Payment Gateway - PayHere Sandbox
- Encryption - SSL/TLS Encryption

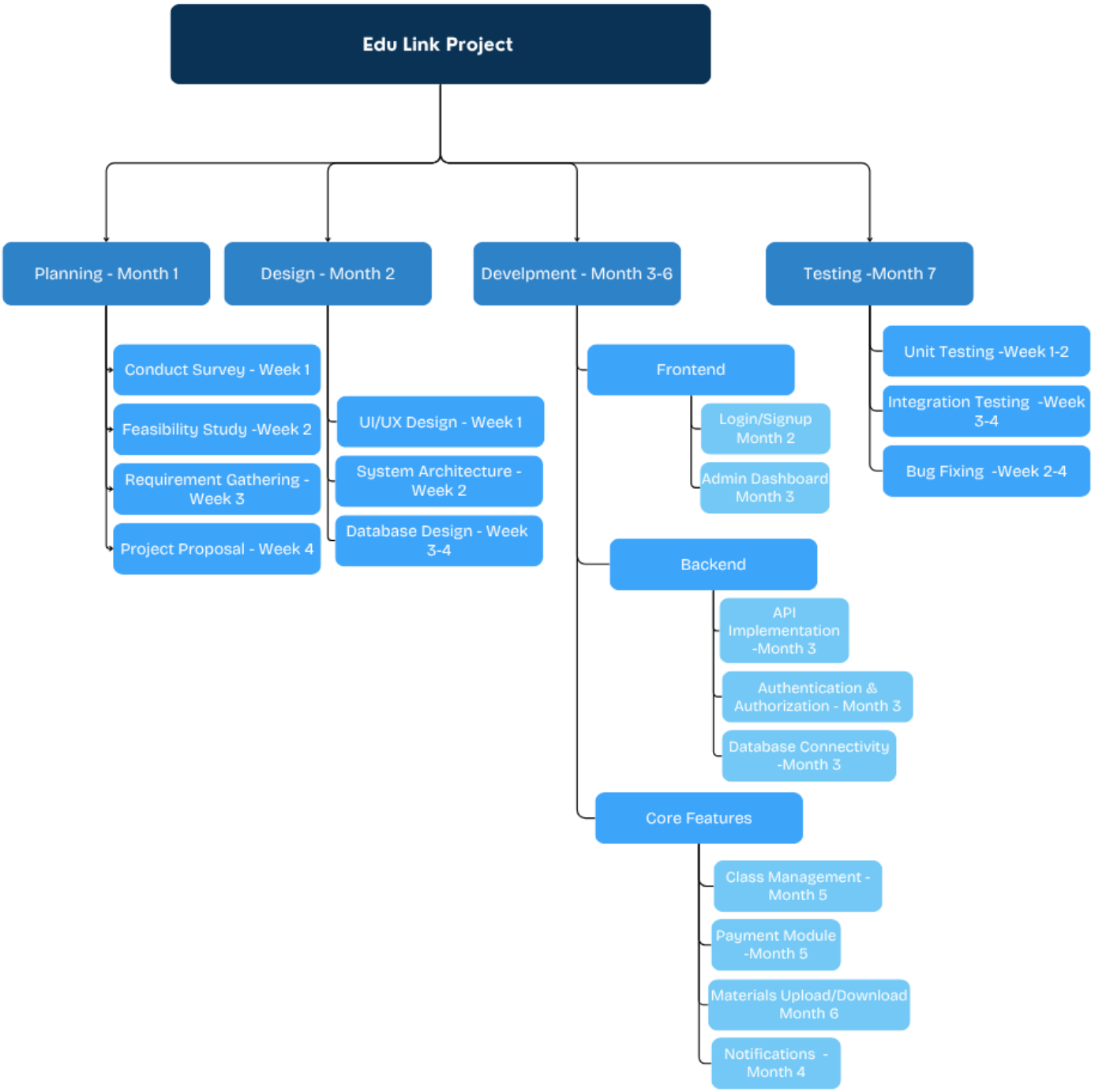
10. Project Timeline

The project spans a total duration of 9 months - till the completion of the academic year. We are modelling our development process using the Iterative waterfall method. In this method, every phase contains a feedback path to its previous phase. So, with any feedback or insights received we can go back and make changes to be more aligned with the requirements and the goals of the project.
With the requirement analysis and the document proposal of the system done, we are confident that the project could be completed on time without any major changes to the schedule.

10.1 Gantt Chart

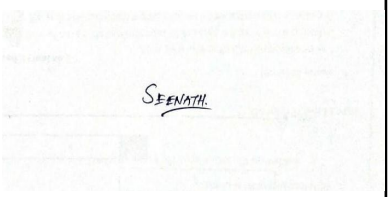


10.2 Work Based Structure



11. Declaration

As the members of the project titled Tuition Management System, we certify that this project is carried out in accordance with guidelines provided by the course coordinators and supervisors. We pledge not to include any material previously submitted for a degree or a diploma at any university without acknowledgement. To the best of our knowledge and belief, the project work does not contain any material previously published or written by another person or us, except where appropriate reference has been made in the text.

Index No	Name of the group members	Signature
Deepika S.M.D	23020172	
Seenath M.J	23020938	
Sehajinie H.W.D	23020946	
Ahamed A.R.T	23020059