

FINAL REPORT
WEB BASED ONLINE INSTITUTE
HANDLING SYSTEM



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Abstract

This interim report presents an Online Institute Handling System which is designed to provide an effective and efficient way to manage students, teachers, exams within the system environment. It will facilitate the efficient running of the institute by giving teachers access to relevant student data, course material, and automated tasks. It will also allow students to take charge of their educational journey by providing them with easy access to their current and past study materials, allowing them to keep track of their progress. Data security, ease-of-use, scalability, and cost-effectiveness are key features of this system and have been given a special focus during the development process. The interim report discusses the project's overall objectives and its current status, detailing the academic modules and the user requirements that have been implemented so far. It also provides an overview of the current challenges and a roadmap for the future of the Online Institute Handling System.

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1 Introduction

This interim report provides an update on the progress of the project to develop a web-based Online Institute Handling System. The aim of this project is to create a centralized platform that will streamline administrative tasks for educational institutes, such as student enrollment, course scheduling, grading, teacher registration and exams and more.

In the first phase of our project, we conducted a needs analysis to identify the key features and functionalities that would be required in such a system. We consulted with various stakeholders, like students, parents and teachers to understand their needs and pain points related to the current systems. We also conducted a review of existing institute handling systems to identify best practices and potential areas for improvement.

Moving forward, our project will focus on refining the system and developing additional features based on user feedback. We will also conduct a larger-scale usability testing with a wider range of users, and work on integrating the system with other existing institute tools and systems.

Overall, we believe that the web-based online institute handling system has the potential to greatly improve the efficiency and effectiveness of educational institute administration. By providing a centralized platform for managing student records and classes, we hope to save valuable time of teachers, students and parents.

As mentioned above, this system is provided to teachers, students and parents have a great learning and teaching experience while they are at their comfort zone.

1.1 Background

Covid - 19 pandemic guided us to a new way of living. Because of the pandemic most schools and institutes changed their teaching method physical to online. Because of this, many people had to buy new smart phones or computers to participate their children to the online classes. As a citizen of developing country, the cost to spend on them is big deal to the Sri Lankan people and many people couldn't access to the online education. After two years of the pandemic, in 2022 people facing a worst situation than the pandemic.

Inflation incrementing day by day and people have to spend their money and time carefully. Because of the dollar deficit, country have a limited stock of fuels. Because of the reason, people of the Sri Lanka can have a limited fuel ration for their vehicles and most of the time that fuel

ration isn't even enough for their daily working activities. Even if the situation like that, most of the parents have to provide their limited fuel stock on their children's transportation. In Sri Lanka 70% of the students use one or more tuitions for their studies [1]. In 2020, Sri Lanka had 4,063,685 students and if we consider 70% of the students is 2,844,580 [2]. If we consider the numbers, we can clearly see thousands of liters of fuel use a day for their transports and when we consider the situation in this country, now it's a very hard number to accept. Because of the high usage of fuels, the country loss their remaining dollar reserves are rapidly depleting and therefore inflation rate goes high again and again. This situation dragging Sri Lanka to a disaster.

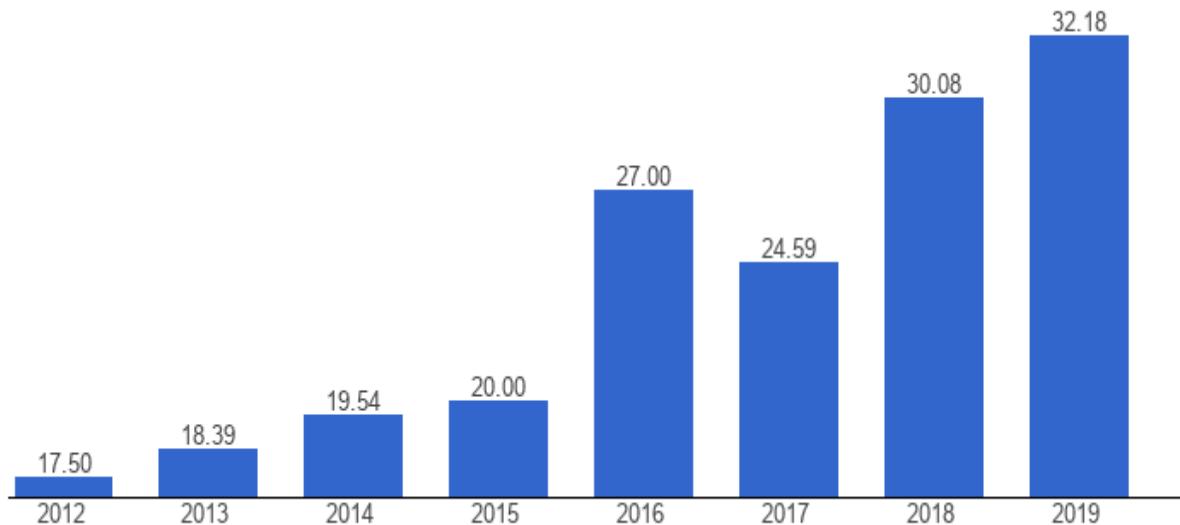


Figure 1: Gasoline consumption of Sri Lanka by years

Not only the waste of fuels, because of this competition of tuition, we can see a huge traffic on the road after the end of schools. Because of this traffic, not only people but also environment facing a huge problem.

Only 15% of people in Sri Lanka have a good English knowledge [3] and only 34.3% of people have the basic knowledge of computer [4]. So, this situation guides most people hate the online education. Therefore, even if they have the resources to access the online education, they don't take a chance to try it. Part of the Sri Lankan people at least don't know how to fill some kind of form on computer using their details. So, they use only physical methods to fulfil their things. When we consider the parents, most of the parents don't give a chance their children with online educations because of the lack of computer knowledge. Most of the parents don't trust their children with a system which they can't understand. If the parents can understand the system with

their familiar language, then the situation may be change. Not only the understand or knowledge level, some people don't have a clear vision and don't wear specs. When they try to go through with some systems, they also face a big problem and some people don't trust the system but they trust the persons or system with personality like humans. Because of that many people trust systems with AI technologies and take some new experiences with that

1.2 Problem Statement

Despite the continued growth of online learning, many people lack basic computer knowledge and English proficiency which makes it difficult for them to access online training materials. As a result, there is a need to develop an Online Institute Handling System with a Sinhala voice assistance feature to enable Sri Lankan users with low English and computer literacy to easily access and use the system and meet their wishes inside the system. This system is in a next level of Online Institute Handling System in Sri Lanka and other countries also will make a step to develop this kind of systems to help people with low English knowledge and low computer literacy.

What: An online institute handling system with Sinhala voice assistance.

Why: To help those with low English and computer literacy.

Who: Those with low English and computer literacy.

Where: Online.

When: currently underway.

How: By developing an online institute handling system with Sinhala voice assistance.

1.3 Motivation and Significance of Project

I'm working in an institute and I see most of the student participate their classes get exhausted after the school and sometimes they fainting because of the exhaustion of travelling to the institute. Not only that, parents spend lots of money and time to transport their children to the institute and give them a ride back to home. Most of the parents have bad feeling about that problem because they have limited liters of fuels for their works. Most of the parents looking for a good online institute but there are no any online institute that have a flexibility with their knowledge, capabilities and reliabilities. After listening to their problem, as an IT undergraduate, I had an idea

to build a better system with my knowledge and capabilities so I can add many required characteristics to my new developing system that existing systems don't have. By a system like that, I can reduce the count of exhausted and fainting children and help to make them healthy and safe at home, help parents and students who haven't got the knowledge or skills to be a part of the online education or even people with some vision problems can easily take a chance to join this interesting learning method and final and the most important problem this system can solve is we can save the thousands of fuel liters for a day and by that we can save millions of dollars in this country and it helps all of the citizens of Sri Lanka to make their lives better again.

1.4 Aims and Objectives

1.4.1 Aim

In this project, it aims to develop a web-based application to produce a better tuition experience with AI technology whenever the user has or hasn't the knowledge to handle the system. Easy handling, user friendly and satisfied service through the system is the main focusing areas to cover within the system.

1.4.2 Objectives

To develop an online institute handling system with Sinhala voice assistance to facilitate access to educational resources for people with low English and computer literacy.

- To understand the main problem and related problems correctly.
- To research the existing solutions related to the above area.
- To design the above-mentioned system via Sinhala voice assistance with an auto generating username and registration form filling and class finding system to the users.
- Low English literacy and low computer literacy people can easily log and meet their wishes using the voice assistance service.
- To find new technologies that can apply to develop the mentioned system.
- To make partitions of the system and assign those are with stakeholders.
- To take a trial session of the system with some real examples.

2 Literature Review

2.1 Existing systems

2.1.1 Shakthi online Institute

Shakthi online institute is an institute that offers online and physical classes both. It provides classes in Sinhala and English both languages. Let's talk about this institute's pros and cons in the next chapter.

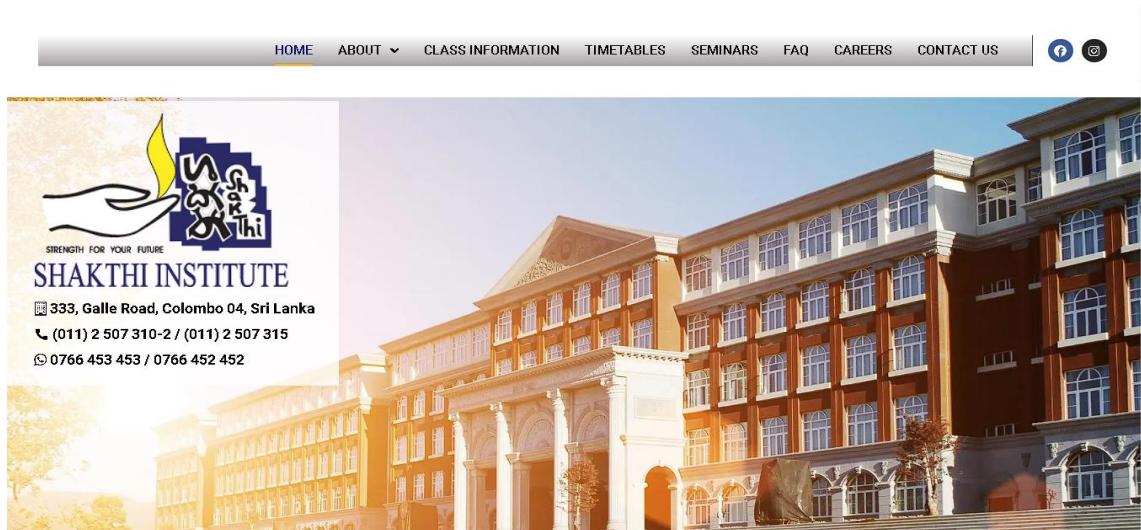


Figure 2: Shakthi Institute

2.1.2 EDUS online Institute

This is a good online learning platform and it has English, Sinhala and Tamil 3 languages classes in it. This provides a good guidance to the students in the system. It also provides a chatbot to the students. It has less responsive capacities and most of the time responsive features not working properly in this system.

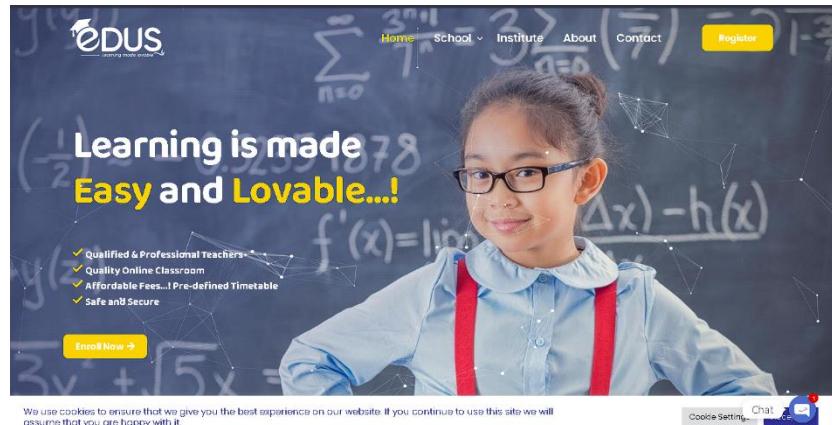


Figure 3: EDUS

2.1.3 eClub Business College

This is an institute that provides ebay, photoshop, certificate in IT and more courses. It has classes in Sinhala and English both modes. It hasn't a user support GUI to guide the user for his expectations. Let's talk about the pros and cons of this system as well in the next chapter.

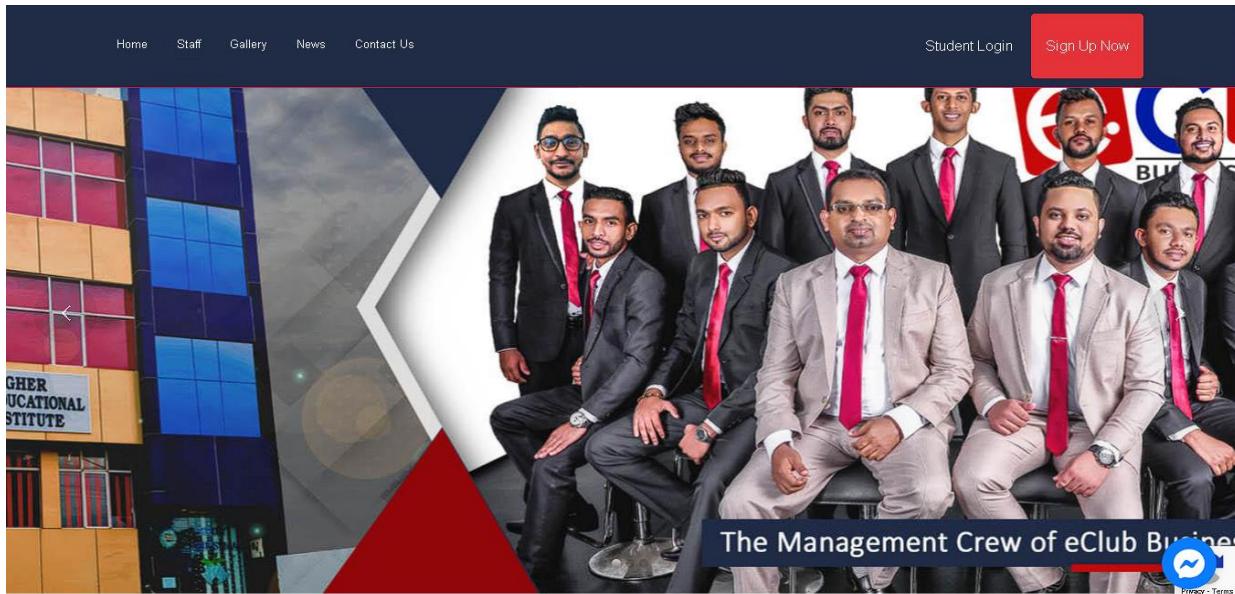


Figure 4: eClub Business College

2.1.4 METROPOLITAN COLLEGE

This is also a online learning flatorm with online classes. It has a simple User Interfaces but for the users it's hard to find their targets. It means it's not a user-friendly system.

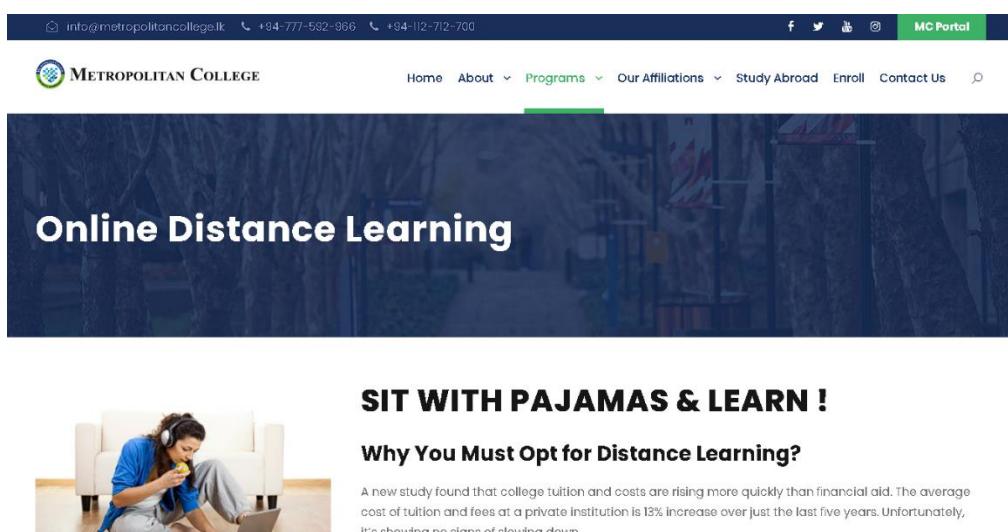


Figure 5: METROPOLITAN COLLEGE

2.1.5 Alison online courses with certificate and diploma

This is an online learning platform that provides online courses and diplomas for free. It has a complex GUI and it makes users confused. It only provide English language courses and diplomas.



Figure 6: Alison online courses

2.2 System Comparison

Features	System						
	Shakthi Institute	EDUS Institute	eClub business college	METROPOLITAN COLLEGE	Alison online courses	Proposed Online Institute Handling System	
Web-based	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Learning platform	Yes	Yes	Yes	Yes	Yes	Yes	Yes
User friendly GUIs	Yes	Yes	No	No	No	No	Yes
Chatbot	No	Yes	Yes	No	No	Yes	Yes
Online payment	No	Yes	No	Yes	Yes	Yes	Yes
Sinhala and English both languages support in the system	No	Yes	No	No	No	No	Yes
Voice assistance	No	No	No	No	No	No	Yes

Teacher Registration	No	Yes	No	No	No	Yes
Parents get notify by email	No	No	No	Yes	No	Yes
Registration to the system with voice assistance	No	No	No	No	No	Yes
Class records provides by the system	No	No	No	No	No	Yes
Online exams	No	Yes	Yes	No	Yes	Yes

Table 1: System Comparison

3 Analysis

3.1 Feasibility Study

Through every stage of the life cycle, feasibility should be evaluated. During the preliminary investigation phase, the first feasibility analysis is conducted. At this early stage of the project, feasibility is reached before the problem's urgency and the initial cost estimate are determined. Before the problem and requirements are adequately understood, feasibility cannot be evaluated. For all systems, a feasibility analysis should be the first step in the requirements engineering process. A sketch of the system's functionality as well as a list of basic business needs form the basis of the feasibility study's contribution. The outcome of the feasibility study should be a report recommending whether or not the requirements engineering and system development process should be continued. There are four main sections to measure a proposal and they are as;

- Operational feasibility
- Technical feasibility
- Economic feasibility
- Schedule feasibility
- Legal feasibility

3.1.1 Operational Feasibility

The operational feasibility of the "Online Institute" project revolves around the seamless integration of its various components. With the incorporation of a Sinhala Voice Assistance, the platform aims to provide a user-friendly experience to administrators, teachers, and students alike. By allowing direct registration for students and enabling voice-assisted registrations, the system ensures accessibility. The clear division of administrative, teacher, and student sections enhances the overall operational efficiency, enabling smooth management of classes, homework, exams, payments, notifications, and feedback.

3.1.2 Technical Feasibility:

The technical feasibility of the "Online Institute" project is rooted in the utilization of modern web technologies. The implementation of a Sinhala Voice Assistance demonstrates the system's adaptability to diverse user preferences. The integration of login mechanisms for administrators, teachers, and students ensures secure access. The platform's capability to handle class management, assignments, exams, and real-time announcements showcases its technical viability. Additionally, the online payment system further supports the project's technical feasibility by integrating secure transaction processes.

3.1.3 Economic Feasibility:

From an economic standpoint, the "Online Institute" project demonstrates promising feasibility. Initial development costs are offset by the long-term benefits of an efficient and scalable online education platform. The implementation of a Sinhala Voice Assistance, while requiring investment, caters to a wider audience, enhancing the platform's market potential. The streamlined administrative processes for managing payments, teachers, and students contribute to reduced operational overheads. By offering a cost-effective and convenient educational solution, the project aligns with economic feasibility.

3.1.4 Schedules Feasibility

The project's schedule feasibility is exemplified by its systematic development timeline. The allocation of time for each phase, from initial design to final deployment, ensures that the "Online Institute" project progresses smoothly. The incorporation of a Sinhala Voice Assistance and the creation of distinct admin, teacher, and student sections might demand meticulous planning, but their modular nature simplifies the implementation process. This approach enables timely development, testing, and adjustments, leading to a successful final submission within the allocated timeframe.

3.1.5 Legal Feasibility

Legal feasibility is upheld by the project's adherence to relevant regulations and guidelines. The registration process for teachers and students is regulated to maintain data privacy and security. The platform's online payment system follows secure transaction protocols to safeguard financial information. Additionally, the inclusion of a Sinhala Voice Assistance respects accessibility standards and regional linguistic preferences. By aligning with legal requirements, the "Online Institute" project ensures a trustworthy and compliant educational platform.

3.2 Components of the system

Software, hardware and a Database are the three primary components of a system. In this project, the software and database components play a significant role.

3.2.1 Software Components and Tasks

3.2.1.1 User account maintaining

User registration is the most important feature that the system has. It maintains the users of the system. Each user has specific different abilities and skills in the system. Because of this user account maintenance, system continuously works with proper maintenance.

Requirement	Description
UA 01	The system shall allow users to create an account by entering user details such as name, email and password. (If use the Voice Assistance to register, then it will provide an auto generated username and system will take user login)
UA 02	The system shall allow authenticate user to login to the system
UA 03	The system shall allow user to update the account details
UA 04	The system shall allow user to change the password
UA 05	The system shall allow user to logout from the system

Table 2: User Requirements

3.2.1.2 Class management

The class management feature provides administrators with a comprehensive system to find the best classes to the students and for the teachers to apply for a new class in the system. With this class management, students and teacher both have many advantages. Administrator has the full authority to manage all the classes.

Requirement	Description
CM 01	The system shall allow administrator to manage all classes and their banners on the system home page.
CM 02	The system shall allow students and teachers to check about available classes.
CM 03	The system shall display the detailed information about the selected classes.
CM 04	The system shall allow to search classes in the system to all the users.

Table 3: Class Management

3.2.1.3 Payment Handling

Online payment ability is one of the most useful features in this system. This feature help to students to pay their class fee through the system by online.

Requirement	Description
PH 01	The system shall provide online payment ability to easily pay through the system.
PH 02	The system shall display the students their payable amounts.
PH 03	The system shall allow students to make their payments to the bank and upload the slip to the system.

Table 4: Payment Handling

3.2.1.4 Report Generation

Report generation is one of the key features in the system and it helps all the users to do their works easily and accurately. It helps administrator to get a better understanding about the system and users.

Requirement	Description
RG 01	The system shall allow to generate reports about exams, payments, users and classes.
RG 02	The system shall allow to generate customized reports about the exams, payments, users and classes.
RG 03	The system shall allow to administrator to share the reports with the other users like exams and payments.

Table 5: Report Generation

3.2.1.5 Exam, homework and assignments handling

This feature is very useful for any kind of learning system. Not only the homework and other assignments to the students, teacher also can prepare exams for their students. Students also have a big advantage from this system.

Requirement	Description
EH 01	The system shall allow manage all the exams to the administrator and teacher.
EH 02	The system shall allow manage all the homeworks and assignments.
EH 03	The system shall allow provide the exam only for selected students. (Only relevant class students)

Table 6: Exam, homework and assignment handling

3.2.1.6 Voice assistance

This feature is introduced to help low computer literacy and low English knowledge have users. They can easily work with the system using this voice assistance service.

Requirement	Description
VA 01	The system shall provide voice assistance for the users to register to the system with guidance.
VA 02	The system shall provide voice assistance service to find the classes.

VA 03	The system shall provide voice assistance in Sinhala language to help low English knowledge users.
VA 04	The system shall provide auto generated username for the voice assistance using users.

Table 7: Voice assistance

3.2.1.7 Provide search facility

By this facility, users can easily find what they looking for.

Requirement	Description
SE 01	The system shall enable user to enter the search text on the screen.
SE 02	The system shall display all the matching classes based on the search
SE 03	The system shall notify the user when no matching product is found on the search.

Table 8: Search facility

3.2.1.8 Teaching request handling

This feature is for to find the best teaching staff for the system and contact them with quickly as possible. It helps to keep the system speed and good.

Requirement	Description
TR 01	The system shall allow teachers to apply for teaching a class by uploading a cv to the system.
TR 02	The system shall allow administrator to check and send reply to the teaching applications.

Table 9: Teacher Request handling

3.2.1.9 Admin management

Most important feature of the system is the admin management. This admin management panel has the control of most of the things in the system.

Requirement	Description
AD 01	The system shall allow admin to manage the dashboard of the system
AD 02	The system shall allow admin to manage teachers of the system

AD 03	The system shall allow admin to manage students of the system
AD 04	The system shall allow admin to manage payments of the system
AD 06	The system shall allow admin to manage exams of the system
AD 07	The system shall allow admin to handle all the reports of the system
AD 08	The system shall allow admin to manage notifications and update of the system
AD 09	The system shall allow admin to make conversation with users and manage feedbacks of the system
AD 10	The system shall allow admin to handle all the recording of the classes
AD 11	The system shall allow one admin to update admin's own details

Table 10: Admin Management

3.2.2 Database Component

These are the database's tables of proposed Online Institute Handling System.

student	st_id	st_username	st_password	st_name	g_email
	st_dob	st_age	st_address	st_img	st_phone
	reg_date	g_name	VA	status	id
employee	em_id	em_username	em_name	em_address	em_password
	em_email	em_phone	em_position	status	em_dob
	em_img	id			
class	id	cl_id	cl_title	cl_description	cl_grade
	cl_fee	cl_status	cl_img	em_id	cl_duration
	cl_time	cl_day	cl_lan	cl_link	cl_link_date
student_enroll	id	st_enr_id	cl_id	st_id	enr_date
	payment	paid_month			
teacher_enroll	id	em_enr_id	cl_id	em_id	enr_date
	payment	paid_month			
homework	id	hw_id	cl_id	hw_created	hw_title
	hw_content	ans_type	hw_expire	hw_status	result_published
	grading_content	grading_status			

questions	id ans_02	q_id ans_03	ex_id ans_04	question correct_answer	ans_01
answer	id st_answer	ex_id correct	q_id	ans_id	st_id
notification	id active	not_id	not_title	not_link	not_img
announcement	id ano_status	ano_id	cl_id	ano_content	ano_created
attendance	id	atd_id	cl_id	st_id	cl_date
exams	id question_count	ex_id cl_id	ex_title created	ex_time ex_rules	ex_date_time ex_status
feedback	id	f_id	message	st_id	read
recording	id st_id	rec_id rec_link	cl_id	rec_price	rec_date
exam_enroll	id	ex_enr_id	ex_id	st_id	enrolled
homework_answers	id ans_content	hw_a_id	hw_id	st_id	ans_type
payments	id payment_date	p_id payment_status	order_id payment_method	st_id transaction_id	amount cl_id
request	id	req_id	st_id	cl_id	
exam_results	id status	res_id	st_id	ex_id	result

Table 11: Database tables

MySQL is the selected database management system for proposed system. MySQL is highly compliable with java and it's a popular database management system are the reasons for selecting MySQL as the database management system.

The components of my database are listed below.

Database: oims

Tables

announcement

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)			No	None		AUTO_INCREMENT	 Change  Drop More
<input type="checkbox"/>	2	ano_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3	cl_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	4	ano_content	text	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	5	ano_created	date			No	None			 Change  Drop More
<input type="checkbox"/>	6	ano_status	varchar(15)	utf8mb4_general_ci		No	None			 Change  Drop More

answer

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)			No	None		AUTO_INCREMENT	 Change  Drop More
<input type="checkbox"/>	2	ex_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3	q_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	4	ans_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	5	st_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	6	st_answer	text	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	7	correct	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More

attendance

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)			No	None		AUTO_INCREMENT	 Change  Drop More
<input type="checkbox"/>	2	atd_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3	cl_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	4	st_id	varchar(10)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	5	cl_date	date			No	None			 Change  Drop More

class

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)			No	None		AUTO_INCREMENT	 Change  Drop More
<input type="checkbox"/>	2	cl_id 	varchar(250)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3	cl_title	varchar(250)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	4	cl_description	varchar(5000)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	5	cl_grade	varchar(250)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	6	cl_fee	int(11)			No	None			 Change  Drop More
<input type="checkbox"/>	7	cl_status	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	8	cl_img	varchar(100)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	9	em_id	varchar(30)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	10	cl_duration	varchar(20)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	11	cl_time	time			No	None			 Change  Drop More
<input type="checkbox"/>	12	cl_day	varchar(20)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	13	cl_lan	varchar(30)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	14	cl_link	varchar(500)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	15	cl_link_date	date			Yes	NULL			 Change  Drop More
		Console								

employee

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)			No	None		AUTO_INCREMENT	 Change  Drop More
<input type="checkbox"/>	2	em_id	varchar(15)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3	em_username	varchar(150)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	4	em_name	varchar(250)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	5	em_dob	date			No	None			 Change  Drop More
<input type="checkbox"/>	6	em_address	varchar(500)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	7	em_img	varchar(200)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	8	em_password	varchar(500)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	9	em_email	varchar(250)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	10	em_phone	int(11)			No	None			 Change  Drop More
<input type="checkbox"/>	11	em_position	varchar(30)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	12	status	varchar(15)	utf8mb4_general_ci		No	None			 Change  Drop More

exams

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔒	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	ex_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	ex_title	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	ex_time	varchar(5)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	ex_date_time	datetime			No	None			Change Drop More
<input type="checkbox"/>	6	question_count	int(11)			No	None			Change Drop More
<input type="checkbox"/>	7	cl_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	created	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9	ex_rules	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	10	ex_status	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

payments

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔒	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	p_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	order_id	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
<input type="checkbox"/>	4	st_id 💳	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	amount	decimal(10,2)			No	None			Change Drop More
<input type="checkbox"/>	6	payment_date	timestamp			No	current_timestamp()			Change Drop More
<input type="checkbox"/>	7	payment_status	enum('Pending', 'Completed', 'Failed')	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	payment_method	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9	transaction_id	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change Drop More
<input type="checkbox"/>	10	cl_id 💳	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More

homework

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	hw_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	cl_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	hw_created	datetime			No	None			Change Drop More
<input type="checkbox"/>	5	hw_title	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	hw_content	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7	ans_type	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	hw_expire	datetime			No	None			Change Drop More
<input type="checkbox"/>	9	hw_status	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	10	result_published	varchar(5)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	11	grading_content	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	12	grading_status	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

homework_answers

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	hw_a_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	hw_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	st_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	ans_type	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	ans_content	text	utf8mb4_general_ci		Yes	NULL			Change Drop More

notification

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	not_id 🔑	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	not_title	varchar(500)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	not_link	varchar(1000)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	not_img	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	active	varchar(5)	utf8mb4_general_ci		No	None			Change Drop More

questions

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	q_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	ex_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	question	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	ans_01	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	ans_02	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7	ans_03	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	ans_04	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9	correct_answer	text	utf8mb4_general_ci		No	None			Change Drop More

exam_enroll

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	ex_enr_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	ex_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	st_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	enrolled	varchar(10)	utf8mb4_general_ci		No	No			Change Drop More

request

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	req_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	st_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	cl_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

student_enroll

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	st_enr_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	st_id	varchar(6)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	cl_id	varchar(6)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	enr_date	datetime			Yes	NULL			Change Drop More
<input type="checkbox"/>	6	payment	varchar(15)	utf8mb4_general_ci		No	Not Paid			Change Drop More
<input type="checkbox"/>	7	paid_month	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More

recording

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	rec_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	cl_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	rec_price	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	rec_date	date			No	None			Change Drop More
<input type="checkbox"/>	6	st_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7	rec_link	varchar(500)	utf8mb4_general_ci		No	None			Change Drop More

student

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)		No	None		AUTO_INCREMENT	 Change  Drop More	
<input type="checkbox"/>	2	st_id 	varchar(30)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	3	st_username	varchar(250)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	4	g_email	varchar(250)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	5	st_password	varchar(250)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	6	st_name	varchar(250)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	7	st_dob	date		No	None			 Change  Drop More	
<input type="checkbox"/>	8	st_age	int(11)		No	None			 Change  Drop More	
<input type="checkbox"/>	9	st_address	varchar(450)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	10	st_img	varchar(50)	utf8mb4_general_ci	No	default-pro-pic.jpg			 Change  Drop More	
<input type="checkbox"/>	11	st_phone	int(15)		No	None			 Change  Drop More	
<input type="checkbox"/>	12	reg_date	datetime		Yes	NULL			 Change  Drop More	
<input type="checkbox"/>	13	g_name	varchar(250)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	14	VA	int(11)		No	None			 Change  Drop More	
<input type="checkbox"/>	15	status	varchar(15)	utf8mb4_general_ci	No	None			 Change  Drop More	

teacher_enroll

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)		No	None		AUTO_INCREMENT	 Change  Drop More	
<input type="checkbox"/>	2	em_enr_id	varchar(10)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	3	cl_id	varchar(10)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	4	em_id	varchar(10)	utf8mb4_general_ci	No	None			 Change  Drop More	

feedback

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 	int(11)		No	None		AUTO_INCREMENT	 Change  Drop More	
<input type="checkbox"/>	2	f_id	varchar(10)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	3	message	text	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	4	st_id	varchar(10)	utf8mb4_general_ci	No	None			 Change  Drop More	
<input type="checkbox"/>	5	read	enum('Yes', 'No')	utf8mb4_general_ci	No	None			 Change  Drop More	

exam_results

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	res_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	st_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	ex_id	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	result	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	status	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More

Find the ER diagram on System Design Process.

3.2.3 Hardware Component

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. Also, this system should run on Microsoft windows-based system.

Processor	1.9 gigahertz (GHz) x86- or x64-bit dual core processor
Memory	4GB RAM or higher
Hard disk	10GB free hard disk or higher
Display	Good VGA with a resolution of 1024 x 768
Internet	Dedicated connection to the internet

Table 12: Hardware Component

3.3 Technologies and Tools

There are several technologies which could be used to develop a standalone system. I have selected to use Java as the platform of my project among all the other technologies. I have selected apache as the server and MySQL for the database. NetBeans as the IDE.

Apache as Webserver

A public domain open source web server application which processes and delivers web content to a computer. Apache is the most popular web server online, powering nearly 54% of all websites.

XAMPP

XAMPP is a simple light weight apache distribution which makes it extremely easy for the developers to create a local web server for testing purposes. Everything you need to set up a web server (Apache, MySQL, PHP) is included in a simple extractable file.

MySQL

Every web-based application whether it is standalone or website or else simple or complicated it requires a database to store the collected data. MySQL is also an open source relational database management system (RDBMS) based on structured query language (SQL).

PHP

PHP is a server-side scripting language used for web development. It's embedded within HTML code and is used to create dynamic web pages. PHP can interact with databases, handle forms, and perform various server-side tasks.

CSS (Cascading Style Sheets)

CSS is a stylesheet language used to define the visual presentation and layout of web pages written in HTML and XML. It controls the styling of elements, including fonts, colors, spacing, and positioning, making web pages visually appealing.

AJAX (Asynchronous JavaScript and XML)

AJAX is a set of web development techniques that use JavaScript to make asynchronous requests to a web server. This allows for dynamic, interactive web applications that can update content without requiring a full page reload, providing a smoother user experience.

JavaScript

JavaScript is a versatile and widely-used programming language for web development. It is primarily used to add interactivity and behavior to web pages. JavaScript can manipulate the Document Object Model (DOM), handle user input, and communicate with servers to create dynamic web applications.

3.4 Proposed Methodology

The primary objective of the proposed web-based Online Institute Handling System will enable institute admins to manage classes, students, student records, exam records, teacher records and other aspects of their institute from a single platform.

Admins can log in to their admin dashboards. From there, they can view manage classes, students, student records, exam records, teacher records and so many things.

Students can apply for classes through the system. They can view available courses and select the one that best suits them. Once the request is confirmed, students can see that classes is added to his enabled courses.

The system will also allow admins to organize and manage events and promotions through the platform. They can create event listings, invite students and classes, and manage registrations all within the system.

The suggested software development methodology for this system is the iterative **waterfall model**. The model provides feedback loops from every phase to its preceding phases, allowing for modifications and improvements to be made at each iteration. This approach will enable the system to evolve with new functional capabilities as the needs of the institute and its students change. It will also enable institute admins to test the system's functionality before moving on to more detailed features.

3.5 Technologies Adapted

This system is being developed using **HTML, PHP, AJAX, CSS** and **JAVA SCRIPT**. Here are the system functionalities and their development techniques.

- Voice assistance: PHP and Java Script
(SpeechRecognition, webkitSpeechRecognition)

- Payment: PHP and Java Script
- Class handling: HTML, PHP, CSS, Ajax and Java Script
- User handling: HTML, PHP, CSS, Ajax and Java Script
- Report Generation and representation: HTML, PHP, CSS, Ajax and Java Script
- Exams, Homeworks and Assignments: HTML, PHP, CSS and Java Script
- Chat and Notification: HTML, PHP, CSS, Ajax and Java Script

MYSQL is the Database that use for proposed system.

3.6 Test and Deployment plan

Test and Deployment Plan:

For the purpose of testing and successful deployment of the Online Institute Handling System, the following components will be tested and deployed in stages.

Functional Testing

- Create test cases for all modules and functionalities of the system
- Execute tests and log results
- Investigate and analyze all issues reported
- Debug and fix identified software bugs

Performance Testing

- Create performance test plans
- Execute tests within simulated environment
- Monitor system response time, memory & resource utilization
- Track and investigate errors
- Take corrective measures

Usability Testing

- Design and create usability tests
- Analyse user behaviour when using system
- Record feedback to identify usability issues
- Address feedback and design improvements

Security Testing

- Identify entry points of malicious attack
- Test authentication, authorization & encryption
- Test for vulnerability to common attacks
- Test for security exploitations
- Take necessary steps for vulnerability patching

System Deployment

- Check system compatibility with existing infrastructure
- Configure and setup servers and networks
- Install software packages and required libraries
- Implement backup and disaster recovery mechanisms
- Final testing and user acceptance testing
- Go live with system and monitor system performance

Test cases writing is a major part of the system testing process. It guides testing process to do in order and make system's weaknesses and strength listed. Here are few Test Cases regarding Online Institute Handling System.

4 Design

4.1 Decisions taken during the designing process

It's crucial to make the appropriate choices during this designing phase if you want to produce high-quality software or systems. Choosing MySQL as my database was one of the key decisions I made during the decision-making process.

Use case diagrams, class diagrams, entity relationship diagrams, and activity diagrams were created using Star UML and MySQL Workbench for this publication.

• Use Case Illustration

Use case diagrams are the main format for documenting the specifications for a new system or piece of software in the Universal Markup Language. It identifies the anticipated behavior in a use case. We can choose a system from the end user's perspective based on the use cases.

- **Class Diagram**

This is an OOP system's main diagram. In the designing system, it demonstrates the connections between classes, objects, attributes, and operations.

- **Activity Diagram**

The software flow diagram represents the process. It provides examples of the processes and shows us how to use the software. Activity diagrams are used to describe those business operations that describe the functioning of the business system in the external view.

4.2 System Design Process

4.2.1 Use Case Diagram

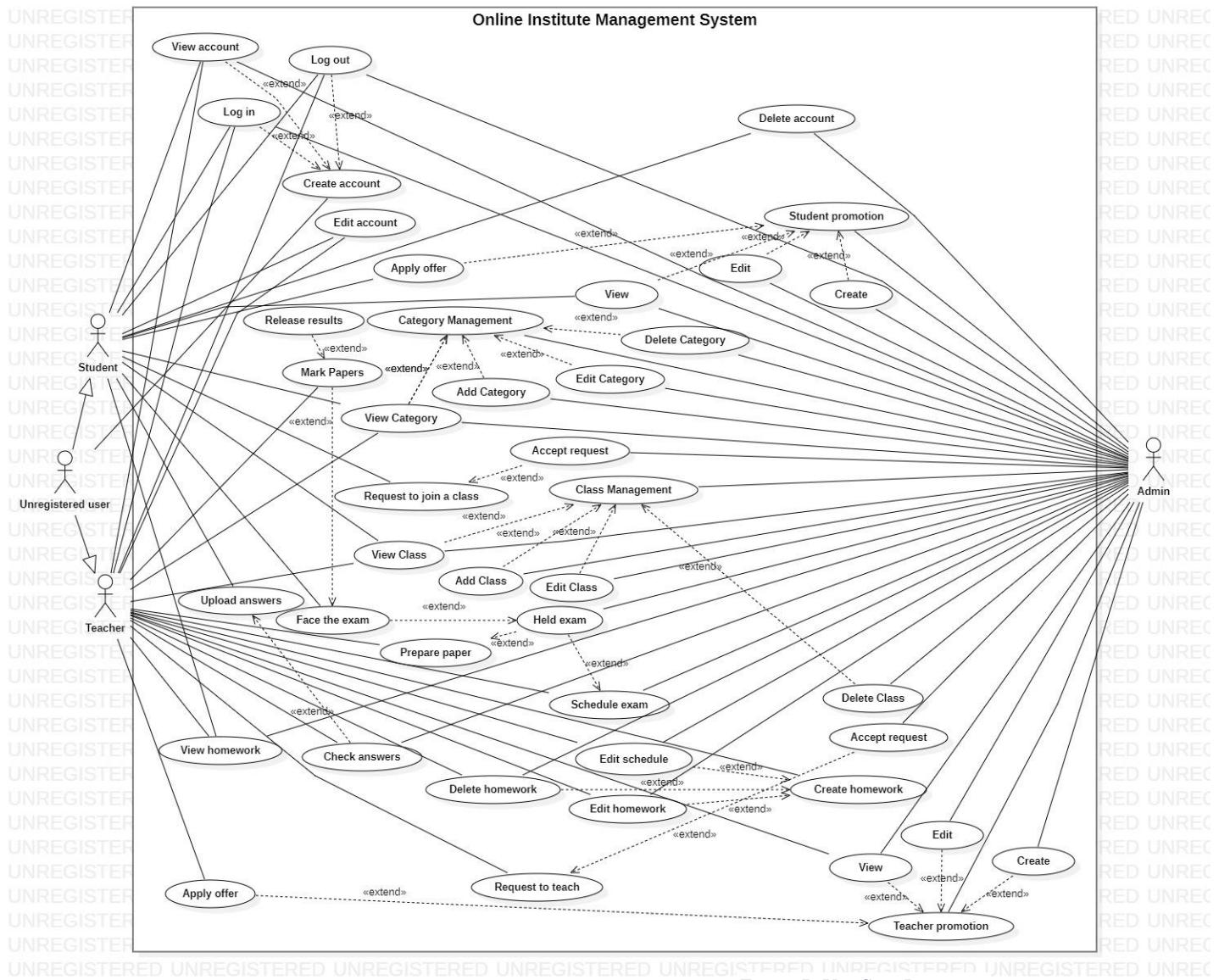


Figure 7: Use Case Diagram

4.2.2 Activity Diagrams

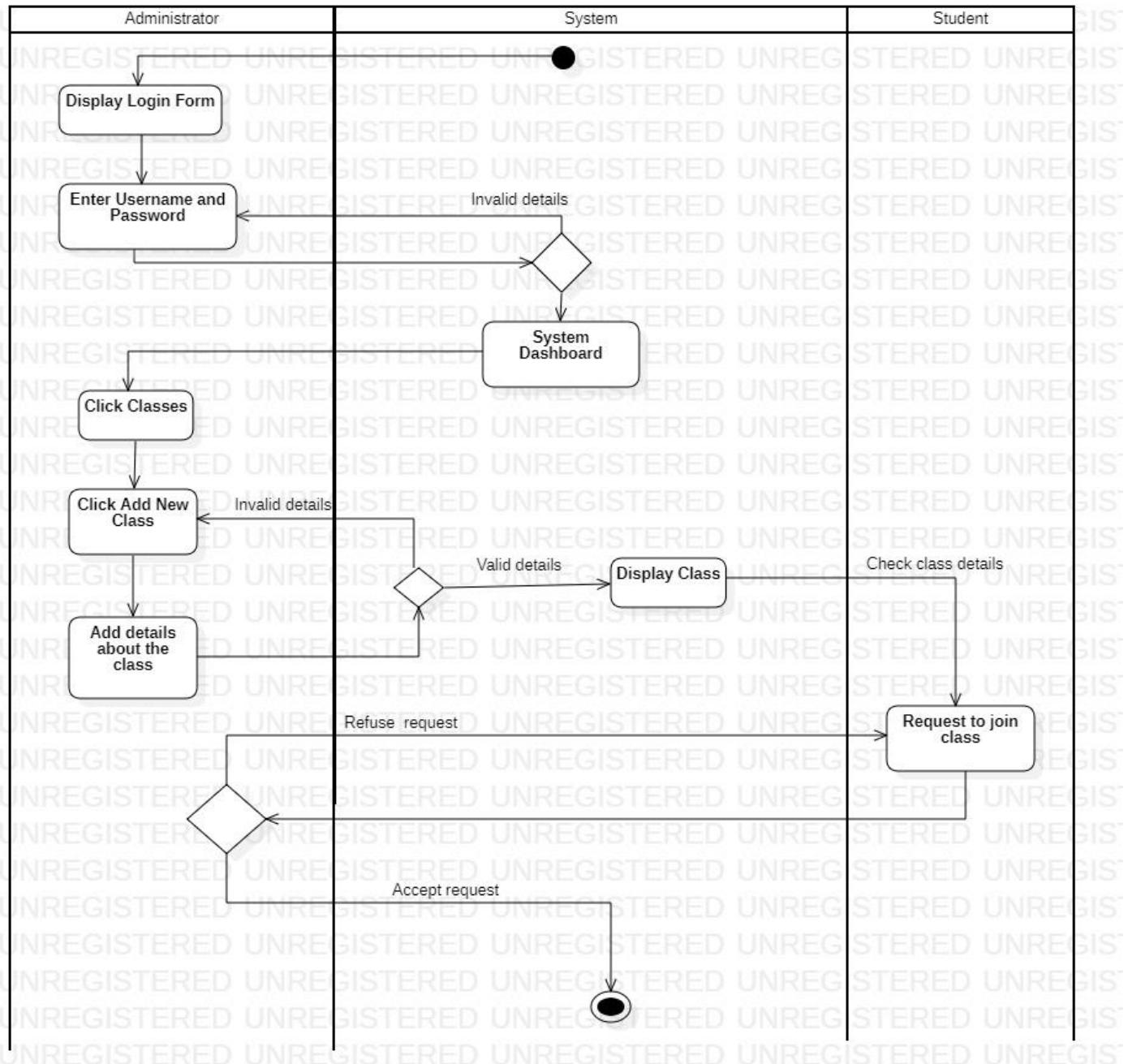


Figure 8: Class Management

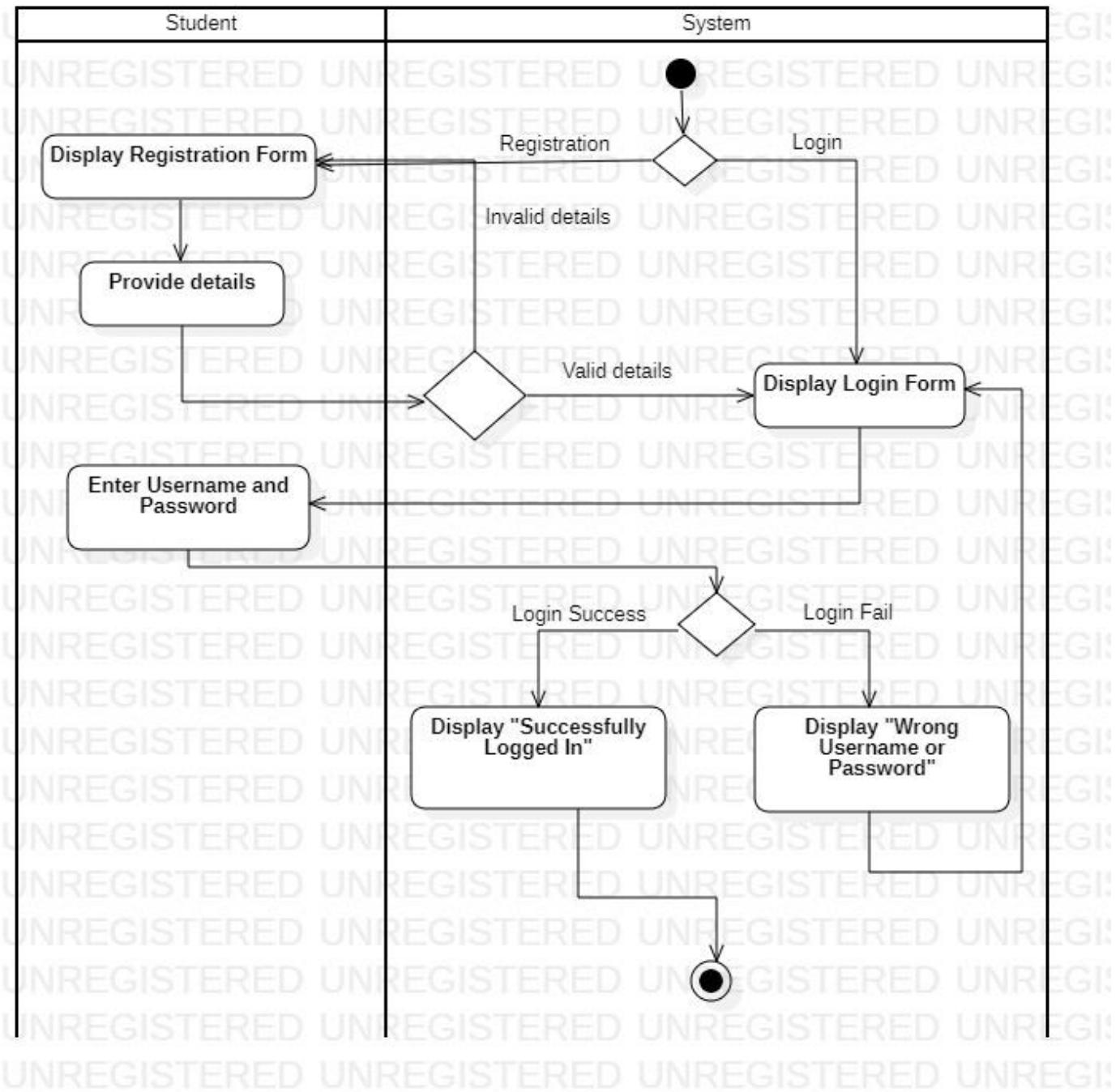


Figure 9: Student Login and Registration

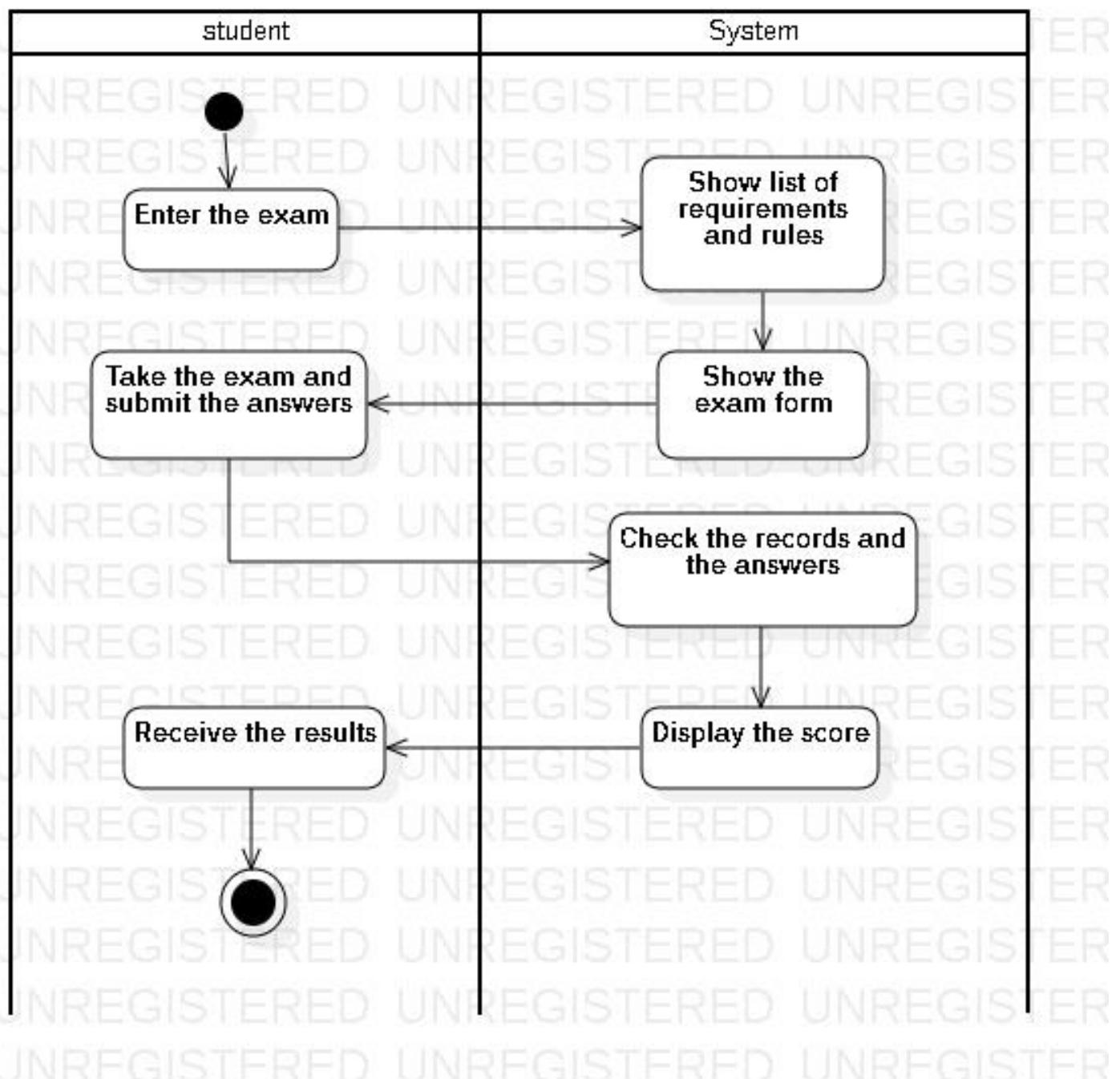


Figure 10: Exam Management

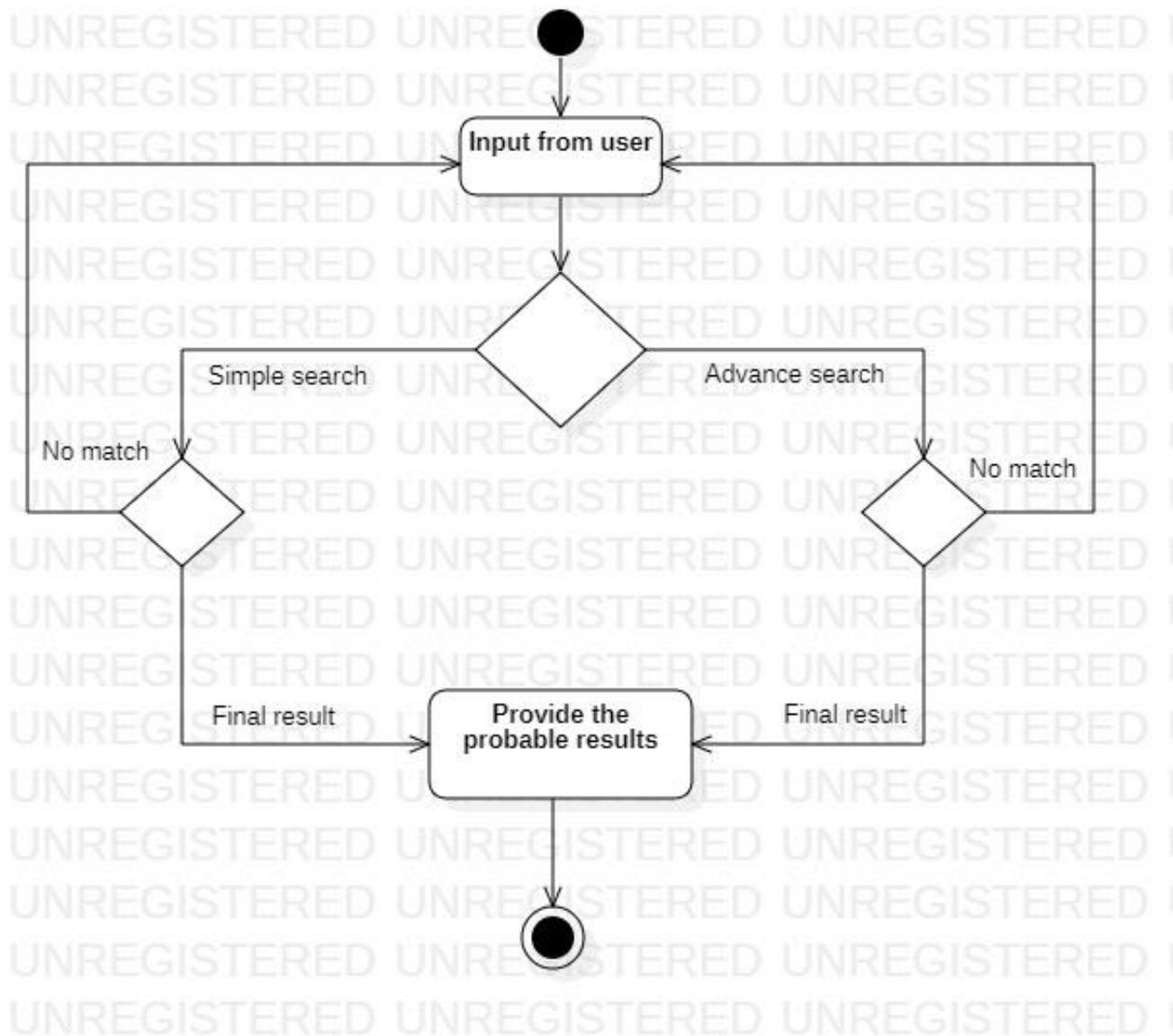


Figure 11: Search

4.2.3 ER Diagrams

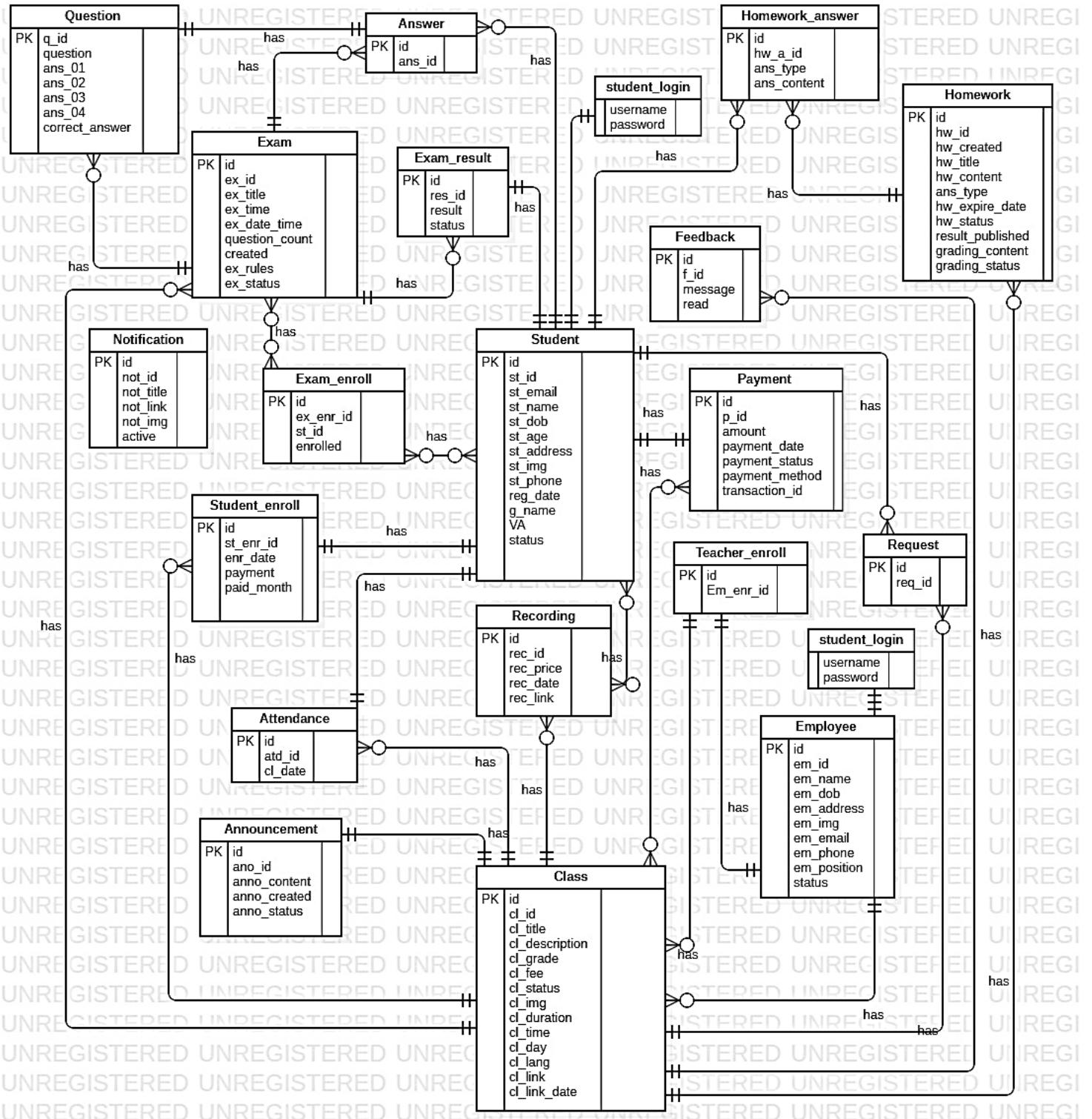


Figure 12: ER Diagram

4.3 Interface Design

4.3.1 Design Principles

Clarity

In UI design, achieving clarity is paramount. Users must easily comprehend the interface, receive necessary information, and understand how to navigate. Key aspects to address include:

- Clear indication of recent actions.
- Clear awareness of the user's location within the system.
- Clear understanding of available actions.
- Clear anticipation of outcomes from user actions.
- Simplicity can also be achieved through clarity.

Flexibility

UI design must accommodate various scenarios, considering both design and coding limitations.

When aiming for flexibility, consider:

- Employing traditional design solutions adaptable to diverse situations.
- Utilizing robust typography practices.
- Planning for diverse content situations.
- Addressing various devices and screen resolutions.
- Acknowledging potential development issues and offering cautionary guidance.

Familiarity

Familiarity enhances user comfort and usability. Prioritize elements that users find familiar, such as:

- Recognizable icons; replace icons with text when uncertain.
- Familiar navigation patterns.
- Employing straightforward, common verbs for calls to action.
- Utilizing standard color codes (e.g., red for urgency, green for completion).
- Consistency in payment processing elements.

Efficiency

Efficiency is a key success factor. Users should accomplish tasks with minimal interaction. To design efficiently:

- Aim for streamlined tasks by minimizing interaction steps.
- Quantify task effort in terms of clicks, forms, and screens.
- Optimize task sequences for minimal effort and seamless completion.

Consistency and Structure

Consistency fosters familiarity and user comfort. Establishing a sense of organization can be achieved by:

- Creating a strong visual hierarchy, emphasizing important elements.
- Aligning content within a grid or using other visual order techniques.
- Employing a consistent color scheme across the application.
- Maintaining uniform navigation throughout the interface.
- Repurposing design elements for various contexts, such as color-coded notifications.

By adhering to these principles, you can develop a UI that offers clarity, flexibility, familiarity, efficiency, and a coherent structure, ultimately leading to a successful and user-friendly software or application.

4.3.2 System UI Designs

4.3.2.1 Admin Section

4.3.2.1.1 Login

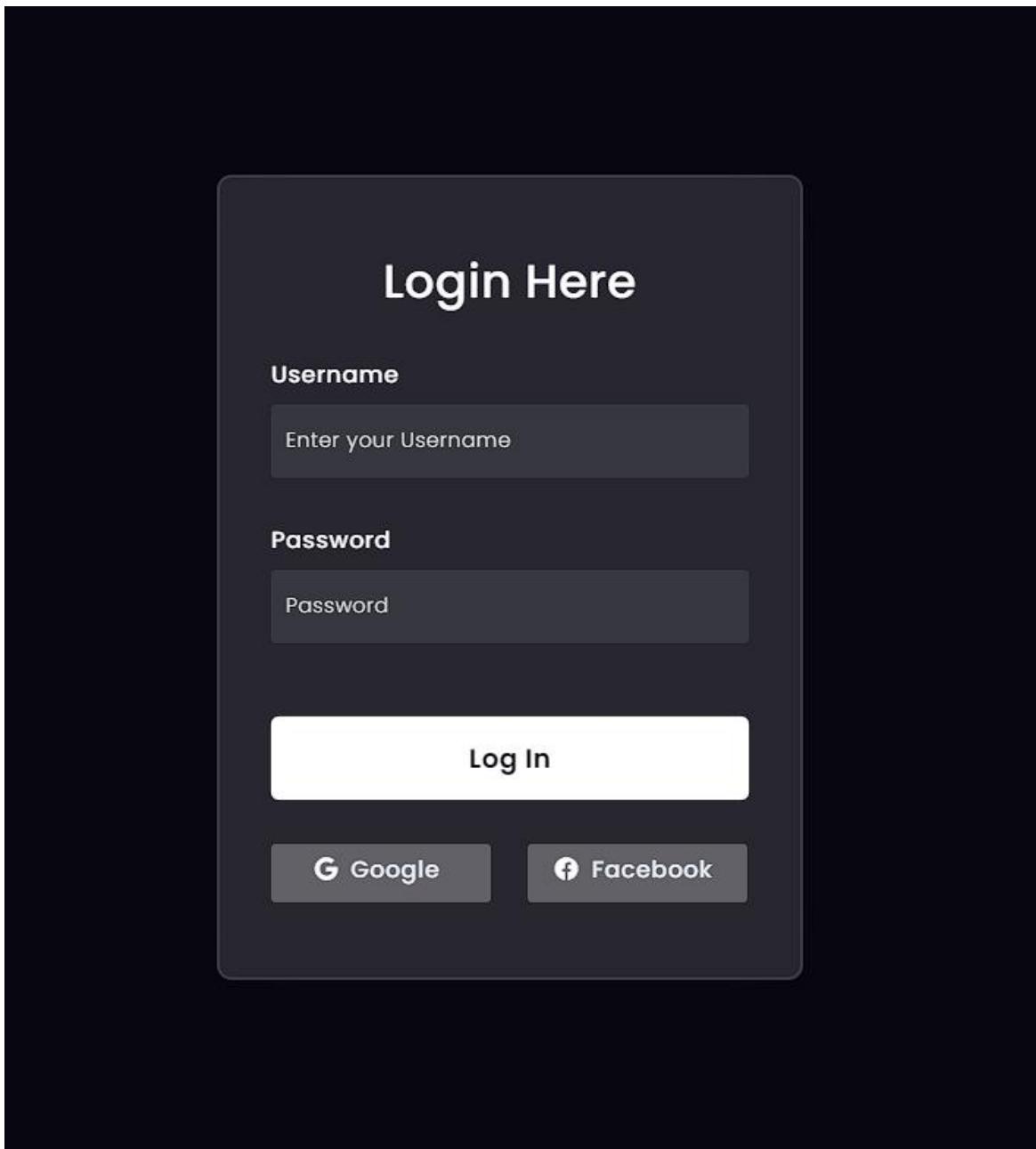


Figure 13: Admin Login

4.3.2.1.2 Dashboard

The screenshot shows the Admin Dashboard for 'ONLINEINSTITUTE'. The top right corner displays a welcome message 'Hey, Lahiru06 Admin' with a profile picture. The dashboard features a sidebar with navigation links: Dashboard, Classes, Teacher Panel, Student Panel, Homework, Payments, Accounting Section, Exams, Feedback (with 20 notifications), Notification Panel, and Admin. The main area has three circular performance metrics: 'Total Students' (5, 81%), 'Total Teachers' (5, 78%), and 'Total Income' (Rs 3000, 81%). Below these are sections for 'Recent Requests' and 'New Users'.

Recent Requests:

S.ID	Username	Student Age	Requesting Class	Teacher ID	Action
S39	Lahiru06	22	C58 - Geography	T9	<button>Accept</button> <button>Reject</button>

New Users:

- Lahiru04 joined the class - C67 8 days ago.
- Lahiru04 joined the class - C63 8 days ago.
- Lahiru04 joined the class - C59 8 days ago.
- Lahiru06 joined the class - C53 13 days ago.

Figure 14: Admin Dashboard

4.3.2.1.3 Dashboard – Show all requests

This screenshot shows the Admin Dashboard with a specific focus on 'REQUESTS TO JOIN CLASSES'. The 'Recent Requests' section from Figure 14 is still visible on the left. The central area is titled 'REQUESTS TO JOIN CLASSES' and contains a table of pending requests. A 'Close' button is at the bottom of this section.

REQUESTS TO JOIN CLASSES:

S.ID	Username	Student Age	Requesting Class	Teacher ID	Action
S39	Lahiru06	22	C58 - Geography	T9	<button>Accept</button> <button>Reject</button>

Figure 15: Admin Dashboard - Show all

4.3.2.1.4 Class

The screenshot shows the 'CLASS MANAGEMENT' section of the admin dashboard. On the left, a sidebar lists various administrative panels: Dashboard, Classes (selected), Teacher Panel, Student Panel, Homework, Payments, Accounting Section, Exams, Feedback (with 20 notifications), Notification Panel, Admin, and Logout. The main area displays a table titled 'New Class' with columns: No, Class ID, Title, Grade, Image, Description, Fee, Teacher, Language, Duration, Day and Time, Status, and Action. Seven classes are listed:

No	Class ID	Title	Grade	Image	Description	Fee	Teacher	Language	Duration	Day and Time	Status	Action
1	C53	History	6		A Journey to history! ☀️	1000.00	T5	Sinhala	2 hr	Tuesday - 15:00:00	Active	Edit
2	C57	Mathematics	8		Learn mathematics here.	2000.00	T6	Sinhala	2 hr	Monday - 14:30:00	Inactive	Edit
3	C58	Geography	9		Description goes here. Description goes here.	2000.00	T9	Sinhala	2 hr	Monday - 19:34:00	Active	Edit
4	C59	Mathematics	10		A short description goes here.	2000.00	T5	English	2.30 hr	Monday - 00:00:00	Active	Edit
5	C60	English	3		Lets learn a new language. ☀️	1500.00	T7	English	2 hr	Wednesday - 15:00:00	Active	Edit
6	C63	ICT	4		Are you ready to embark on an exciting digital journey? ☀️	1500.00	T6	Sinhala	2 hr	Monday - 15:30:00	Active	Edit
7	C64	Sinhala	8		Explore the Beauty of Sinhala	1000.00	T7	Sinhala	2 hr	Tuesday -	Active	Edit

On the right, a 'Recent Updates' sidebar shows a list of user activity:

- Lahiru04 joined the class - C67 8 days ago.
- Lahiru04 joined the class - C63 8 days ago.
- Lahiru04 joined the class - C59 8 days ago.
- Lahiru06 joined the class - C53 13 days ago.
- Lahiru06 joined the class - C59 22 days ago.
- Lahiru05 joined the class - C63 23 days ago.
- Lahiru05 joined the class - C60 24 days ago.
- Lahiru06 joined the class - C64 24 days ago.
- Lahiru06 joined the class - C60 24 days ago.

Figure 16: Admin - Class

4.3.2.1.5 Class – Edit class

The screenshot shows the 'EDIT CLASS' form. The background shows a list of classes. The form fields are:

- Title: History
Description: ☀️ A Journey to history! ☀️
- Grade: 6
- Fee: 1000
- Teacher ID: T5
- Image:
- Select New Image: Choose File | No file chosen
- Day: Tuesday
- Time: 03:00 PM
- Duration: 2 hr
- Language: Sinhala
- Status: Active

At the bottom are 'Delete Class' and 'Save' buttons. On the right, a 'Recent Updates' sidebar shows a list of user activity:

- Lahiru04 join 8 days ago.
- Lahiru04 join 8 days ago.
- Lahiru04 join 8 days ago.
- Lahiru06 join 13 days ago.
- Lahiru06 join 22 days ago.
- Lahiru05 join 23 days ago.
- Lahiru05 join 24 days ago.
- Lahiru06 join 24 days ago.
- Lahiru06 join 24 days ago.

Figure 17: Admin Class - Edit Class

4.3.2.1.6 Teacher

The screenshot shows the 'TEACHER MANAGEMENT' section of the admin dashboard. At the top, there are three summary cards: 'Total Teachers' (5), 'Total Income' (Rs 3000), and 'Total Paid' (Rs 5600). Below these is a red button labeled 'New Teacher'. To the right, a sidebar titled 'New Teachers' lists three recent additions: Lahiru Sampath, Lahiru Abeysekara, and Lahiru Abeysekara, each with their subject and a timestamp. The main area displays a table of all teachers, including columns for ID, Teacher ID, Username, Name, Mob. No, Payable, Status, and Action. The table data is as follows:

ID	Teacher ID	Username	Name	Mob. No	Payable	Status	Action
1	T5	Teacher 01	lahiru sampath	755835770		Active	<button>Edit</button>
2	T6	Saman Madugalla	Saman Madugalla	755835770		Active	<button>Edit</button>
3	T7	Kamal Gunasekara	Kamal Gunasekara	755835770		Active	<button>Edit</button>
4	T8	Thilini Radhika	Thilini Radhika	755835770		Active	<button>Edit</button>
5	T9	Darshana Rajakaruna	Darshana Rajakaruna	755835770		Active	<button>Edit</button>

Below the table is a 'BIO' section with a search bar and a 'Show All' link.

Figure 18: Admin - Teacher

4.3.2.1.7 Teacher - Bio

The screenshot shows the 'BIO' section of the teacher management interface. It features a search bar and a 'Submit' button. Below is a table of teacher profiles, each with a preview image, details, and an 'Edit' button. The table data is as follows:

No	Teacher ID	Username	Name	Image	DOB	Address	Email	Mob. No	Status	Action
1	T5	Teacher 01	lahiru sampath		2012-06-04	No 07, Kinigama, Buthpitiya	cavav25490@sparkroi.com	755835770	Active	<button>Edit</button>
2	T6	Saman Madugalla	Saman Madugalla		1989-09-19	No 07, Kinigama, Buthpitiya	kasun@gmail.com	755835770	Active	<button>Edit</button>
3	T7	Kamal Gunasekara	Kamal Gunasekara		1990-06-14	No 07, Kinigama, Buthpitiya	lahiru@gmail.com	755835770	Active	<button>Edit</button>
4	T8	Thilini Radhika	Thilini Radhika		1995-07-13	No 07, Kinigama, Buthpitiya	lisige803@wiemei.com	755835770	Active	<button>Edit</button>
5	T9	Darshana Rajakaruna	Darshana Rajakaruna		1992-06-10	No 07, Kinigama, Buthpitiya	lisige803@wiemei.com	755835770	Active	<button>Edit</button>

At the bottom is a 'Show All' link.

Figure 19: Admin Teacher - Bio

4.3.2.1.8 Teacher – New teacher

TEACHER MA

NEW TEACHER

Total Teachers **5**

TEACHERS

Enter Teacher ID or Username

ID	Teacher ID
1	T5
2	T6
3	T7
4	T8
5	T9

Address:

Select Image: Choose File No file chosen

Email:

Mobile:

Status: --Choose--

New Teachers

- Lahiru Sampath Subject: 2 minutes ago
- Lahiru Abyesekar Subject: 10 minutes ago
- Lahiru Abyesekar Subject: 1 hour ago

Cancel **Save**

Figure 20: Admin Teacher - New teacher

4.3.2.1.9 Teacher – Search

TEACHERS

15

ID	Teacher ID	Username	Name	Mob. No	Payable	Status	Action
1	T5	Teacher 01	lahiru sampath	755835770	Active	Active	Edit

Figure 21: Admin Teacher- Search

4.3.2.1.10 Student

The screenshot shows the 'STUDENT MANAGEMENT' section of the admin dashboard. It includes a sidebar with various links like Dashboard, Classes, Teacher Panel, Student Panel, Homework, Payments, Accounting Section, Exams, Feedback (with 20 notifications), Notification Panel, Admin, and Logout.

Recent Requests:

S. ID	Username	Student Age	Requesting Class	Teacher ID	Action
S39	Lahiru06	22	C58 - Geography	T9	<button>Accept</button> <button>Reject</button>

Show all **Accept all** **Reject all**

Students:

No	ID	Username	Name	Age	DOB	Address	Image	Mob no.	P. Name	P. Email	Paid	Status	Action
1	S7	Lahiru03	Lahiru Sampath Abeysekara	18	1998-11-10	No 07, Kinigama, Butthptiya		755835770	Lahiru Sampath Abeysekara	kasuni@gmail.com	Yes	Inactive	<button>Edit</button>
2	S8	Lahiru04	Lahiru Sampath Abeysekara	24	1998-11-10	No 07, Kinigama, Butthptiya		755835770	Lahiru Sampath Abeysekara	lahiru@gmail.com	Yes	Active	<button>Edit</button>

Figure 22: Admin - Student

4.3.2.1.11 Homework

The screenshot shows the 'HOMEWORK MANAGEMENT' section of the admin dashboard. It includes a sidebar with various links like Dashboard, Classes, Teacher Panel, Student Panel, Homework, Payments, Accounting Section, Exams, Feedback (with 20 notifications), Notification Panel, Admin, and Logout.

Enter Homework ID or HW Title or Class ID **Submit**

Homework Details:

Homework ID	Class ID	Title	Created	Exp Date	HW Status	Result	Result Status	Action
HW33	C59	Do the paper.	2023-08-13 23:32:48	2023-08-29 12:56:00	Active	Yes	Active	<button>Action</button>

Figure 23: Admin - Homework

4.3.2.1.12 Payment

The screenshot shows the 'PAYMENT MANAGEMENT' section of the admin dashboard. It includes three main statistics: 'Remaining payments' (41), 'Paid Students' (485), and 'Total Income' (Rs 11200). Below these are sections for 'Pending Payments' and 'Banned Students', each with their own tables.

Student ID	Student Username	Class ID	Class	Payable	Last Paid	Action
S39	Lahiru06	C63	ICT	1500	2023-08	<button>Edit</button>
S39	Lahiru06	C67	Tamil	1000	2023-07	<button>Edit</button>
S39	Lahiru06	C60	English	1500	2023-08	<button>Edit</button>
S39	Lahiru06	C64	Sinhala	1000	2023-08	<button>Edit</button>
S10	Lahiru05	C60	English	1500	New Student	<button>Edit</button>

Student ID	Student Name	Pending Total	Classes	Mob no.	P. Name	P. Email	Status	Action
S002	Lahiru Sampath	4000	C004 – English – English Medium, C005 – Geography – English Medium	0717612976	Jayantha	jaya@gmail.com	Active	<button>Edit</button>

Figure 24: Admin - Payment

4.3.2.1.13 Payment – Banned and Paid students

The screenshot shows the 'Banned Students' and 'Paid Students' sections of the admin dashboard. Each section has its own table.

Student ID	Student Name	Pending Total	Classes	Mob no.	P. Name	P. Email	Status	Action
S002	Lahiru Sampath	4000	C004 – English – English Medium, C005 – Geography – English Medium	0717612976	Jayantha	jaya@gmail.com	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	C004 – English – English Medium, C005 – Geography – English Medium	0717612976	Jayantha	jaya@gmail.com	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	C004 – English – English Medium, C005 – Geography – English Medium	0717612976	Jayantha	jaya@gmail.com	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	C004 – English – English Medium, C005 – Geography – English Medium	0717612976	Jayantha	jaya@gmail.com	Active	<button>Edit</button>

Student ID	Student Name	Paid Amount	Date & Time	Paid Type	Class(es)	Status	Action
S002	Lahiru Sampath	4000	25/06/2023	Online – Google pay	C004 – English – English Medium, C005 – Geography – English Medium	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	25/06/2023	Online – Google pay	C004 – English – English Medium, C005 – Geography – English Medium	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	25/06/2023	Slip Deposit	C004 – English – English Medium, C005 – Geography – English Medium	Active	<button>Edit</button>
S002	Lahiru Sampath	4000	25/06/2023	Online – Google pay	C004 – English – English Medium, C005 – Geography – English Medium	Active	<button>Edit</button>

Figure 25: Admin - Payment - Banned and paid students

4.3.2.1.14 Accounting section

Payments to Make

Emp ID	Emp Name	Total Payable	Class(es)	Action
S002	Lahiru Sampath	1800	C004 - English - English Medium	<button>Edit</button>
S002	Lahiru Sampath	1500	C004 - English - English Medium	<button>Edit</button>
S002	Lahiru Sampath	1650	C004 - English - English Medium	<button>Edit</button>
S002	Lahiru Sampath	1750	C004 - English - English Medium	<button>Edit</button>

[Show all](#) [Ban all](#)

Paid Employees

Emp ID	Emp Name	Paid Amnt	Date and Time	Classes	Type	Mob no.	Status	Action
S002	Lahiru Sampath	40000	25/06/2023 - 6:23	C004 - English - English Medium, C005 - Geography - English Medium	Bank Deposit	0717612976	Active	<button>Edit</button>
S002	Lahiru Sampath	40000	25/06/2023 - 6:23	C004 - English - English Medium, C005 - Geography - English Medium	Bank Deposit	0717612976	Active	<button>Edit</button>
S002	Lahiru Sampath	40000	25/06/2023 - 6:23	C004 - English - English Medium, C005 - Geography - English Medium	Bank Deposit	0717612976	Active	<button>Edit</button>
S002	Lahiru Sampath	40000	25/06/2023 - 6:23	C004 - English - English Medium, C005 - Geography - English Medium	Bank Deposit	0717612976	Active	<button>Edit</button>

[Show all](#) [Ban all](#)

Figure 26: Admin - Accounting Section

4.3.2.1.15 Exam

ONLINEINSTITUTE

EXAM MANAGEMENT

Hey, Lahiru06 Admin

- [Dashboard](#)
- [Classes](#)
- [Teacher Panel](#)
- [Student Panel](#)
- [Homework](#)
- [Payments](#)
- [Accounting Section](#)
- [Exams](#)
- [Feedback 20](#)
- [Notification Panel](#)
- [Admin](#)
- [Logout](#)

Exam ID	Class ID	Class Name	Teacher ID	Teacher Name	Created Time	Date & Time	Duration	Action
E002	C014	History - English Medium	T015	Gayan Suranga	2 hours ago	25/06/2023 6:20	2 hours	<button>Edit</button>
E002	C014	History - English Medium	T015	Gayan Suranga	2 hours ago	25/06/2023 6:20	2 hours	<button>Edit</button>
E002	C014	History - English Medium	T015	Gayan Suranga	2 hours ago	25/06/2023 6:20	2 hours	<button>Edit</button>
E002	C014	History - English Medium	T015	Gayan Suranga	2 hours ago	25/06/2023 6:20	2 hours	<button>Edit</button>

Figure 27: Admin - Exam

4.3.2.1.16 Notification Panel

The screenshot shows the 'NOTIFICATION MANAGEMENT' section of the admin dashboard. On the left, a sidebar lists various administrative sections like Dashboard, Classes, Teacher Panel, etc. The main area displays a grid of notification cards:

- N19 History class**: 'Let's Travel' theme, Active: Yes, Edit button.
- N21 English class**: 'Let's Go TRAVEL Around the World' theme, Active: No, Edit button.
- N22 Geography class**: 'Let's Go Travel' theme, Active: No, Edit button.
- N23 Tamil class**: 'கீழ்க்கண்ட வினாவுகள்' (Tamil) theme, Active: No, Edit button.
- N31 Buddhism**: 'Let's Go TRAVEL' theme, Active: Yes, Edit button.
- N34 Geography**: 'DESIGN CREATIVE PROFESSIONAL AMAZING BUSINESS FLYER' template, Active: Yes, Edit button.
- N35 Buddhism**: 'TRAVEL & TOUR PROMO' template, Active: Yes, Edit button.
- N36 Sinhala**: 'DESIGN CREATIVE PROFESSIONAL AMAZING BUSINESS FLYER' template, Active: Yes, Edit button.

Figure 28: Admin - Notification panel

4.3.2.1.17 Admin Management

The screenshot shows the 'ADMIN MANAGEMENT' section of the admin dashboard. On the left, a sidebar lists various administrative sections like Dashboard, Classes, Teacher Panel, etc. The main area displays a table of admin users:

No	ID	Username	Name	DOB	Address	Image	Email	Mob no.	Status	Action
1	E1	Lahiru06	Lahiru Sampath	1998-11-10	No 07, Kinigama, Buthpitiya		lahiru@gmail.com	755835770	Active	Edit
1	E3	Lahiru01	A Lahiru Sampath	2023-07-05	No 07, Kinigama, Buthpitiya		lahiru@gmail.com	755835770	Active	Edit
1	E4	Lahiru08	lahiru sampath	2003-10-08	No 07, Kinigama, Buthpitiya		cavav25490@sparkroi.com	755835770	Active	Edit

Figure 29: Admin - Admin management

4.3.2.2 Teacher Section

4.3.2.2.1 Dashboard

The screenshot shows the teacher dashboard for a class named 'C67 - Tamil - Sinhala'. On the left sidebar, there are links for Classes, Exams, Payments, and Reports. The main area is titled 'CLASS LINK' and contains fields to set a new date and time (mm/dd/yyyy) and a class link. A red box highlights a section where the date is set to '2023-08-15' and the link is 'https://www.youtube.com/watch?v=ACu1Fd0ChqY&list=RDMMn6b_ku5E1Q8&index=27', with a 'Copy Link' button below it. Below this is the 'ANNOUNCEMENT AREA' section, which includes a 'NEW ANNOUNCEMENT' button and a preview area.

Figure 30: Teacher – Dashboard

4.3.2.2.2 Announcement

The screenshot shows the 'ANNOUNCEMENT AREA' interface. At the top, there is a 'NEW ANNOUNCEMENT' button. Below it is a rich text editor toolbar with various formatting options like bold, italic, underline, etc. A text input field contains the placeholder 'p'. Below the editor is an 'Announcement Status:' dropdown menu with the option '....'. A 'Submit' button is at the bottom of this section. At the bottom of the page is a 'PREVIEW ANNOUNCEMENTS' table:

Preview	Created	Status	Action
මම අපේක්ෂක නිලධානයකි.	2023-09-03	Active	Delete
announcement	2023-08-20	Inactive	Delete
This is for testing purposes. Do the things as usual.Do the things as usual.	2023-08-18	Inactive	Delete

Figure 31: Teacher - Announcement

4.3.2.2.3 Homework Creation

The screenshot shows the Online Institute platform interface. At the top, there is a navigation bar with links for 'Link and Announcement', 'Homework' (which is highlighted in red), and 'Class Details'. On the right side of the header, there are user icons for 'Hey, Teacher 01' and 'Teacher'. Below the header, the class name 'C67 - Tamil - Sinhala' is displayed. A red button labeled 'New Homework' is visible. The main content area is titled 'HOMEWORKS' and contains a table with columns: Link, Created, Expired Date, Status, and Action. A message at the bottom of the table says 'No any homework added yet.'.

Figure 32: Teacher - Homework Creation

4.3.2.2.4 Homework – New homework

The screenshot shows the 'NEW HOMEWORK' creation form. The left sidebar shows the class name '59 - Mathe' and a 'HOMEWORKS' section with a 'Link' button and a link 'Do the paper.'. The main form has a title 'Title:' with a placeholder 'Title of the Homework' and a rich text editor toolbar above a content area. Below the content area are fields for 'Content:', 'Expire Date & Time:' (with a date/time picker), 'Answer Type:' (with a text input field containing '.....'), and 'Status:' (with a text input field containing '.....'). At the bottom right are 'Save' and 'Cancel' buttons.

Figure 33: Teacher - Homework - New Homework

4.3.2.2.5 Homework Grading

The screenshot shows the 'Homework' section of the Online Institute platform. The top navigation bar includes 'Link and Announcement', 'Homework' (which is highlighted in red), and 'Class Details'. On the right, there are user icons for 'Hey, Teacher 01' and 'Teacher'. The main content area displays a table titled 'HOMEWORK GRADING' for 'C59 - Mathematics - English'. The table has columns for 'Link', 'Created', 'Expired Date', 'Homework Status', 'Result', 'Result Status', and 'Action'. A single row is shown with the text 'Do the paper.' under 'Link', '2023-08-13 23:32:48' under 'Created', '2023-08-29 12:56:00' under 'Expired Date', 'Active' under 'Homework Status', 'Published' under 'Result', 'Active' under 'Result Status', and a red 'Edit' button under 'Action'. The left sidebar contains links for 'Classes', 'Exams', 'Payments', and 'Reports'. At the bottom left is a 'Logout' link.

Figure 34: Teacher - Homework Grading

4.3.2.2.6 Class Details

The screenshot shows the 'Class Details' section of the Online Institute platform. The top navigation bar includes 'Link and Announcement', 'Homework' (highlighted in red), and 'Class Details'. On the right, there are user icons for 'Hey, Teacher 01' and 'Teacher'. The main content area displays a table titled 'STUDENTS' for 'C59 - Mathematics - English'. The table has columns for 'No', 'Image', 'Username', 'DOB', 'Mobile', 'Payments', and 'Status'. Two student records are listed: one with ID 1, image placeholder, username 'Lahiru06', DOB '2001-06-05', mobile '755835770', payments status 'Active', and another with ID 2, image placeholder, username 'Lahiru04', DOB '1998-11-10', mobile '755835770', payments status 'Active'. The left sidebar contains links for 'Classes', 'Exams', 'Payments', and 'Reports'. At the bottom left is a 'Logout' link.

Figure 35: Teacher - Class details

4.3.2.2.7 Exam (Add Exam)

The screenshot shows the 'EXAM CREATION' page with the title 'ADD EXAM'. The form fields are as follows:

- Exam Title:** Enter exam title here
- Class:** --- Select Your Class ---
- Exam time in minutes:** Enter time in minutes
- Exam Date and Time:** mm/dd/yyyy --:-- --
- Exam Status:** --- Select Exam Status ---

Below the form is a rich text editor with a toolbar for File, Edit, View, Insert, Format, Tools, Table, Paragraph, System Font, and Font Size. The text area contains placeholder text: 'Enter exam rules here'. At the bottom right of the editor is a word count of '4 words' and a 'tiny' link.

At the bottom left is a 'Logout' button, and at the bottom center is a blue 'Add Exam' button.

Figure 36: Teacher - Add exam

4.3.2.2.8 Exam management

The screenshot shows the 'EXAM MANAGEMENT' page with a table of exam details:

Exam ID	Exam Title	Duration(Minutes)	Date and Time	Class ID	Status	Action
EX12	Term Test 02	120	2023-08-31 23:41:00	C53	Active	Edit
EX9	Term test - 1	20	2023-08-28 01:22:00	C53	Active	Edit
EX8	Test 03	2	2023-08-01 22:45:00	C59	Active	Edit
EX7	Term test 02	180	2023-08-21 09:24:00	C59	Active	Edit
EX6	New exam 01	180	2023-08-21 01:56:00	C53	Active	Edit

Figure 37: Teacher - Exam Management

4.3.2.2.9 Exam edit

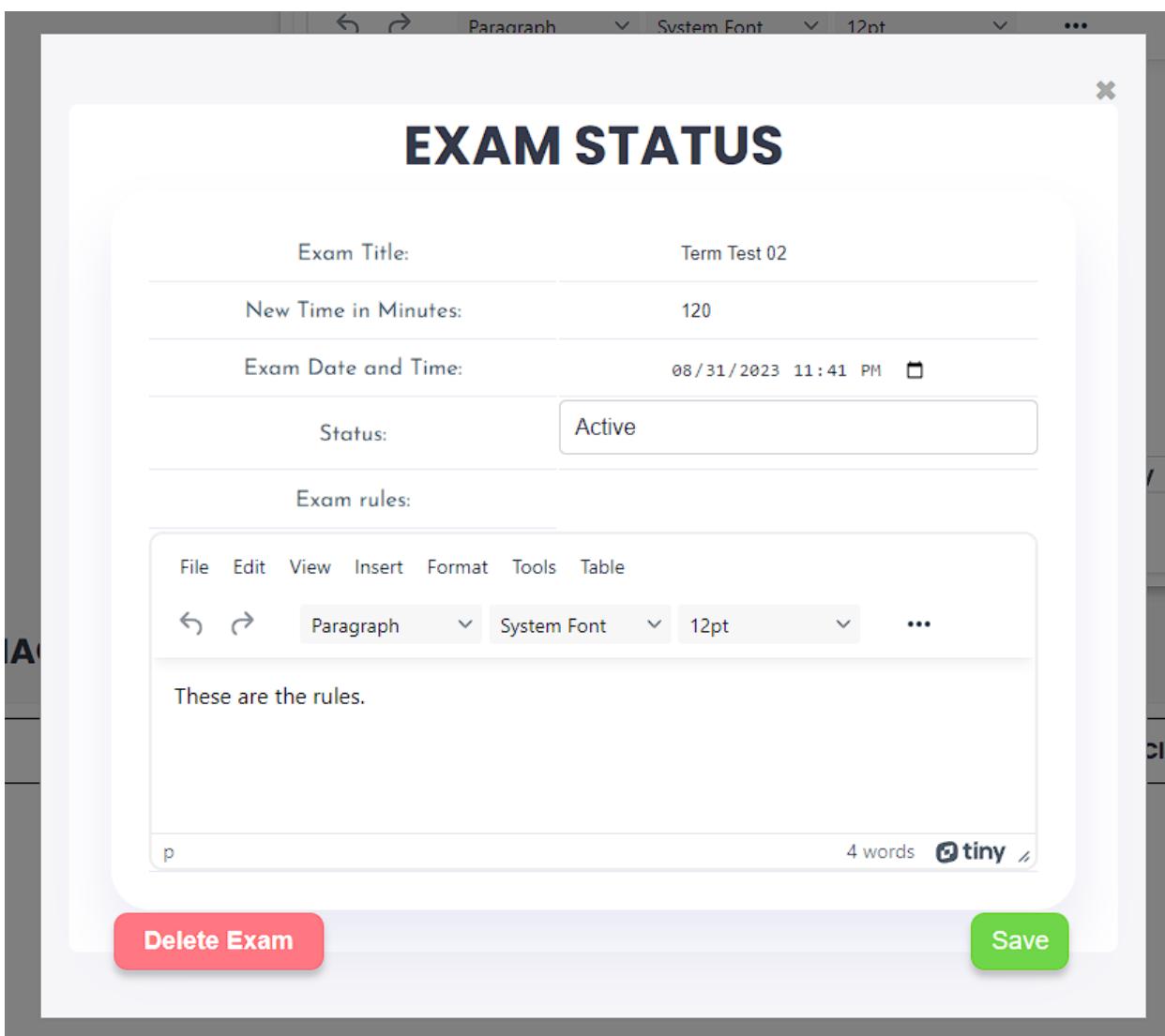
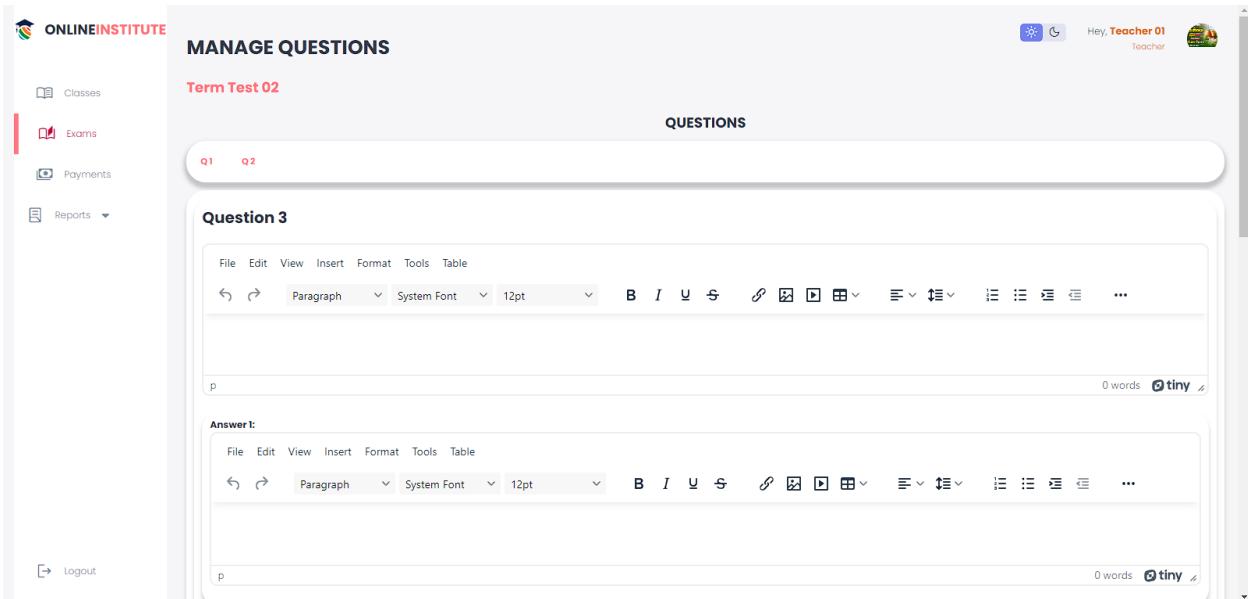


Figure 38: Teacher - Edit Exam

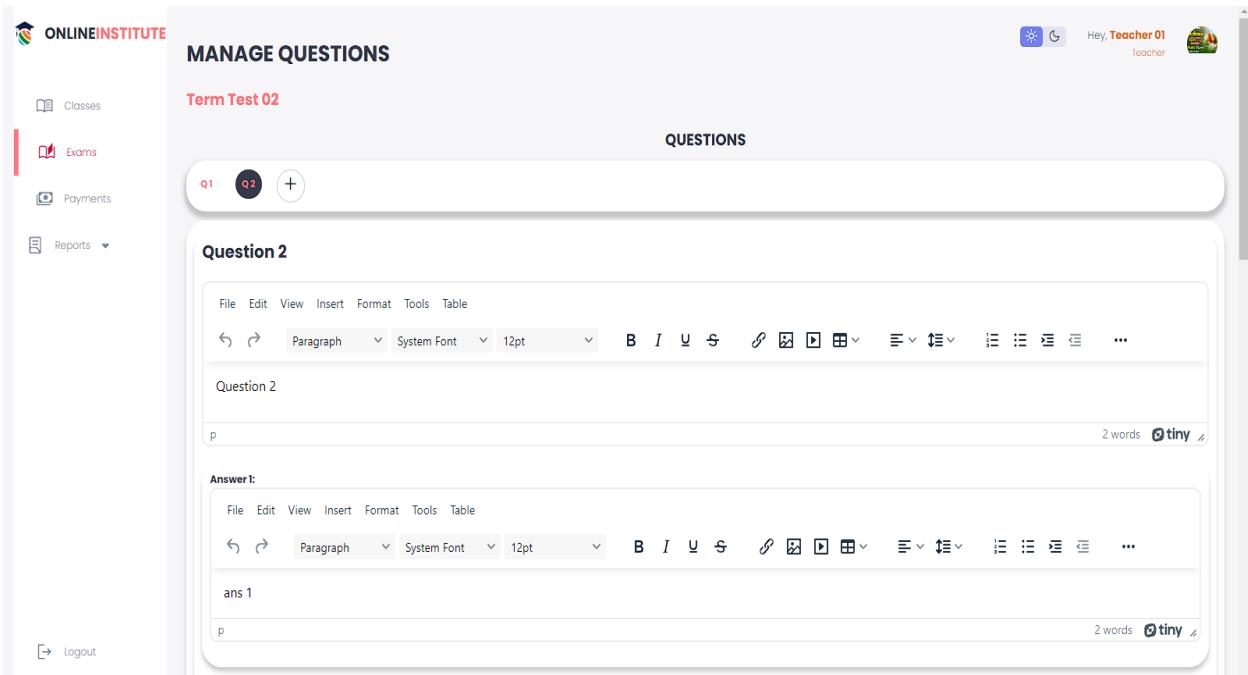
4.3.2.2.10 Manage questions



The screenshot shows the 'Manage Questions' section of the 'Term Test 02'. It displays two questions, Q1 and Q2, each with a rich text editor for input and answer. The interface includes a sidebar with navigation links like Classes, Exams, Payments, and Reports.

Figure 39: Teacher - Manage Questions

4.3.2.2.11 Exam - Edit questions



The screenshot shows the 'Edit questions' section of the 'Term Test 02'. It displays Question 2 with a rich text editor for input and answer. The interface includes a sidebar with navigation links like Classes, Exams, Payments, and Reports.

Figure 40: Teacher - Edit questions

4.3.2.3 Student Section

4.3.2.3.1 Registration

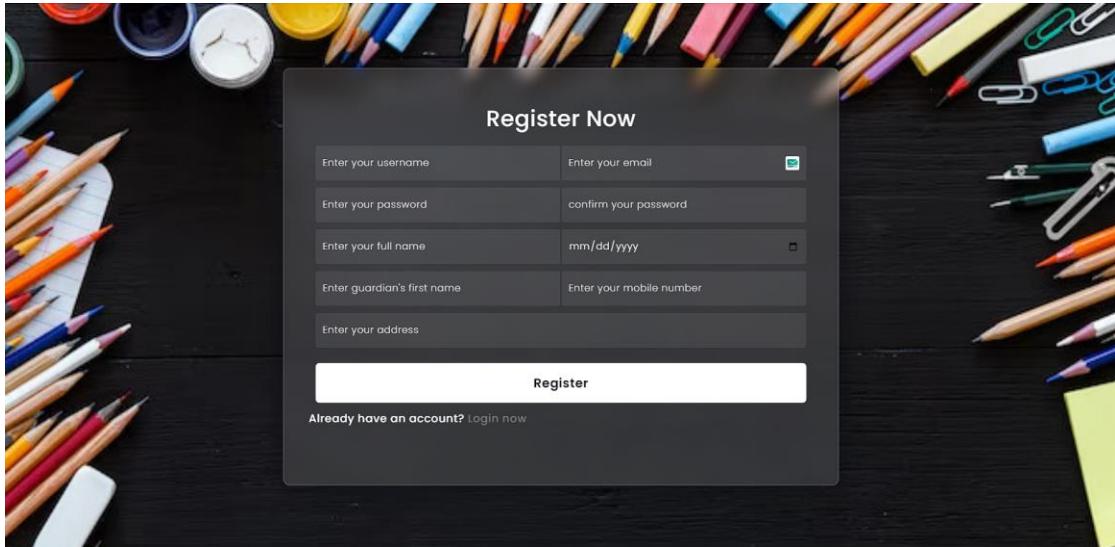


Figure 41: Student - Registration

4.3.2.3.2 Exam management

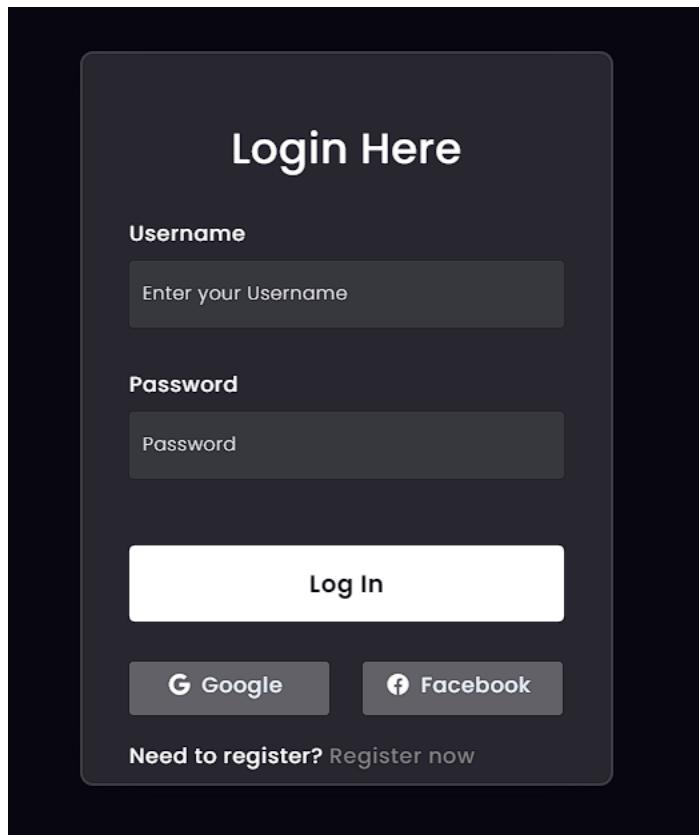


Figure 42: Student - Login

4.3.2.3.3 Sinhala voice assistance

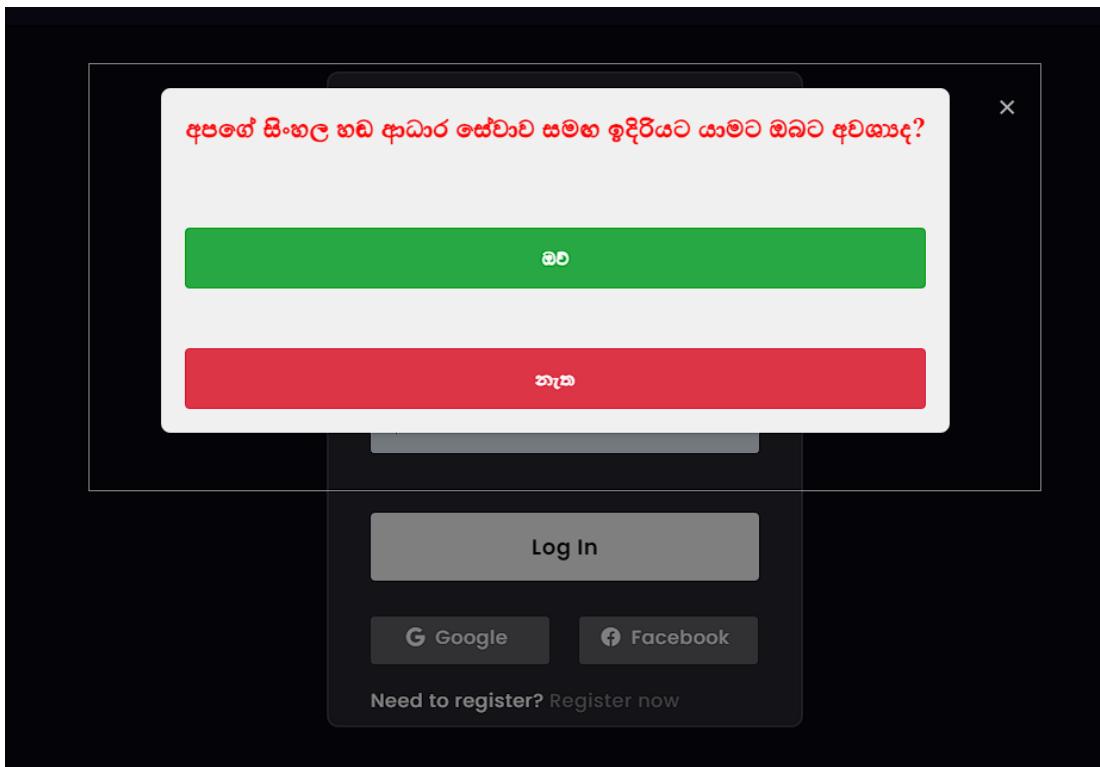


Figure 43: Student - Sinhala Voice Assistance

4.3.2.3.4 Sinhala Voice assistance - Choose

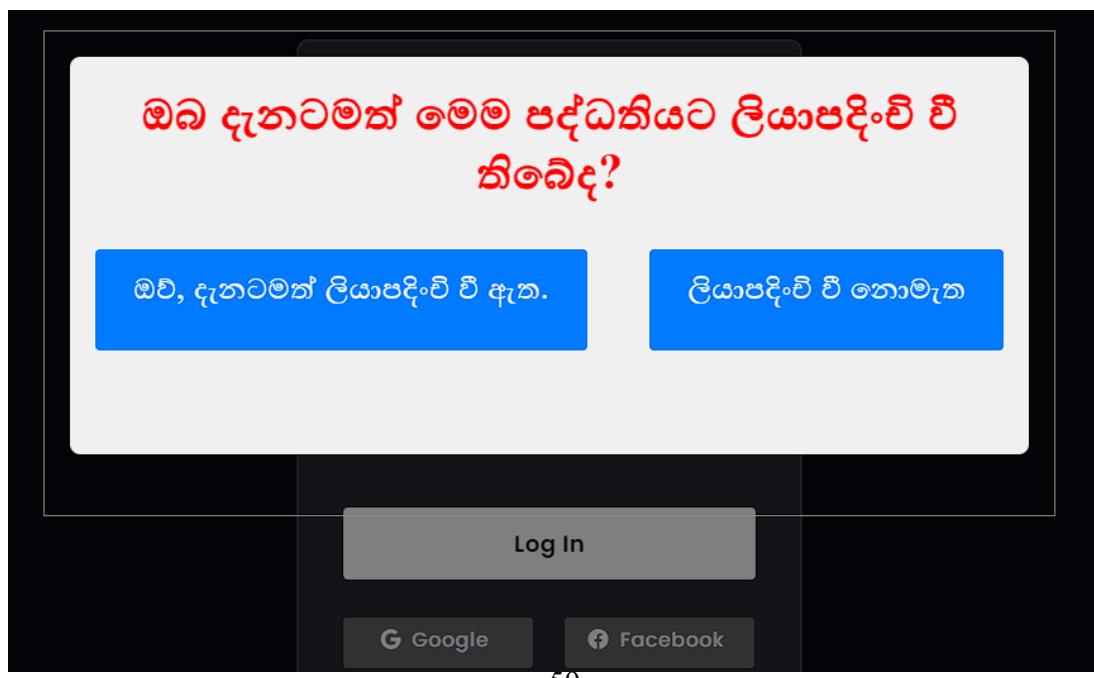


Figure 44: Student - Sinhala Voice Assistance - Choose

4.3.2.3.5 Sinhala Voice assistance – Register - Username

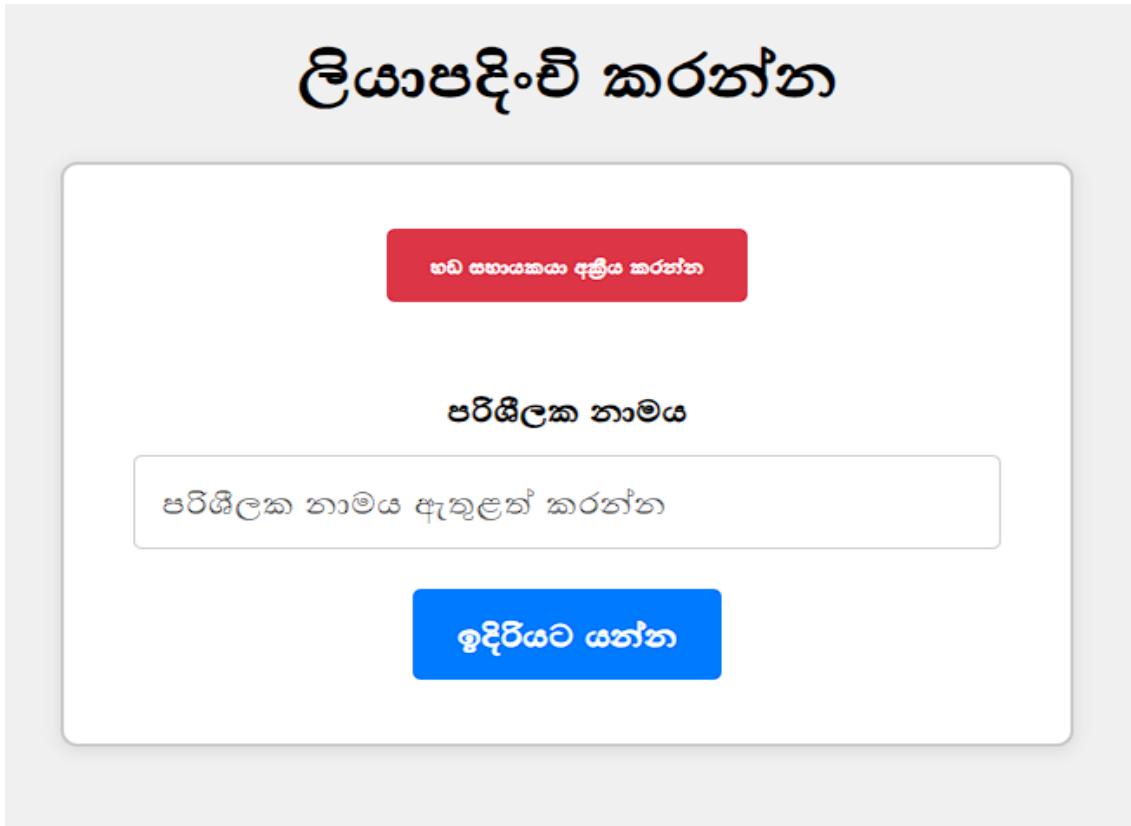


Figure 45: Student - Sinhala voice Assistance - Register - Username

4.3.2.3.6 Sinhala voice assistance - Register - Password

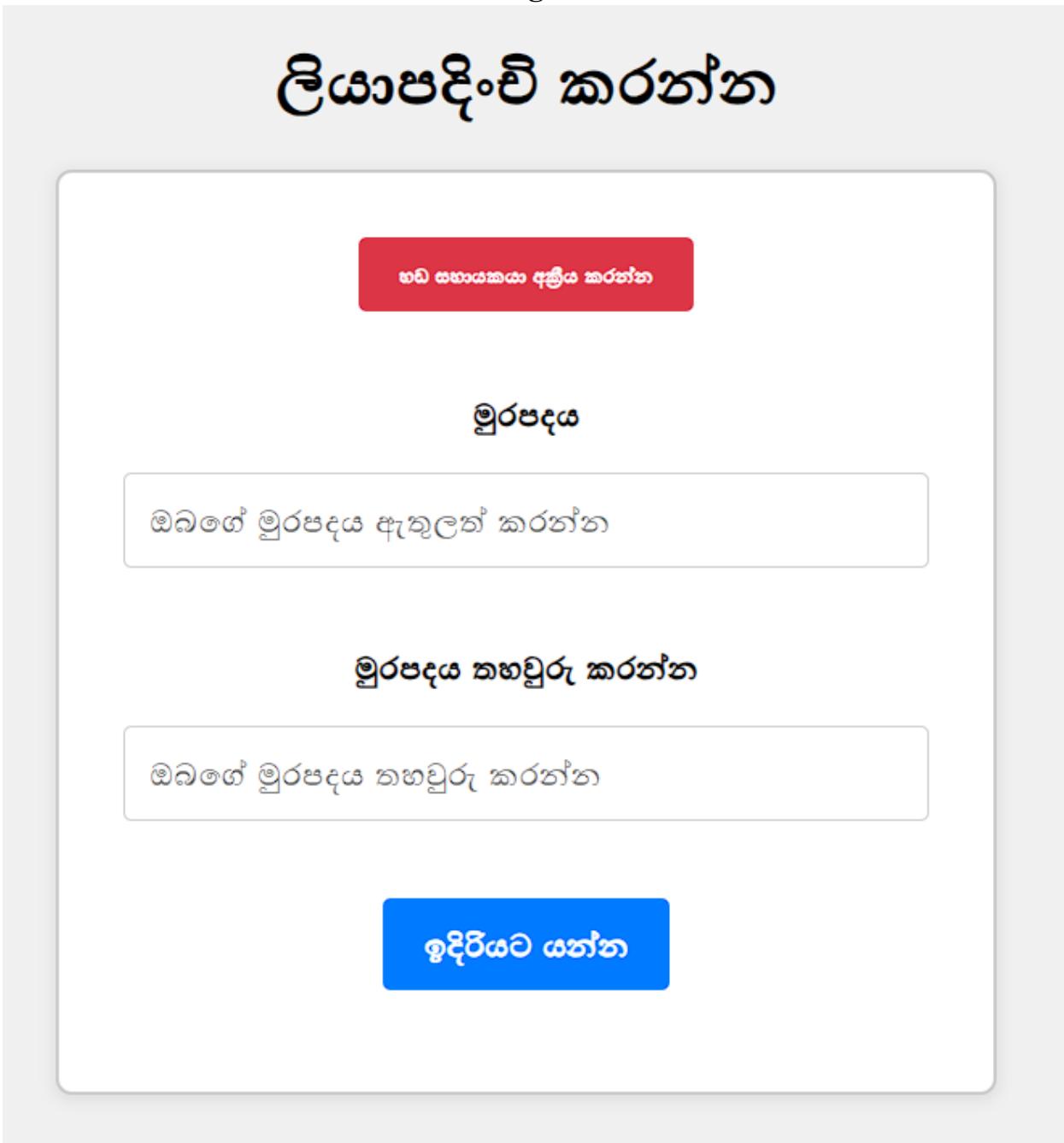


Figure 46: Student - Sinhala voice Assistance - Register - Password

4.3.2.3.7 Sinhala voice assistance – Register - Age

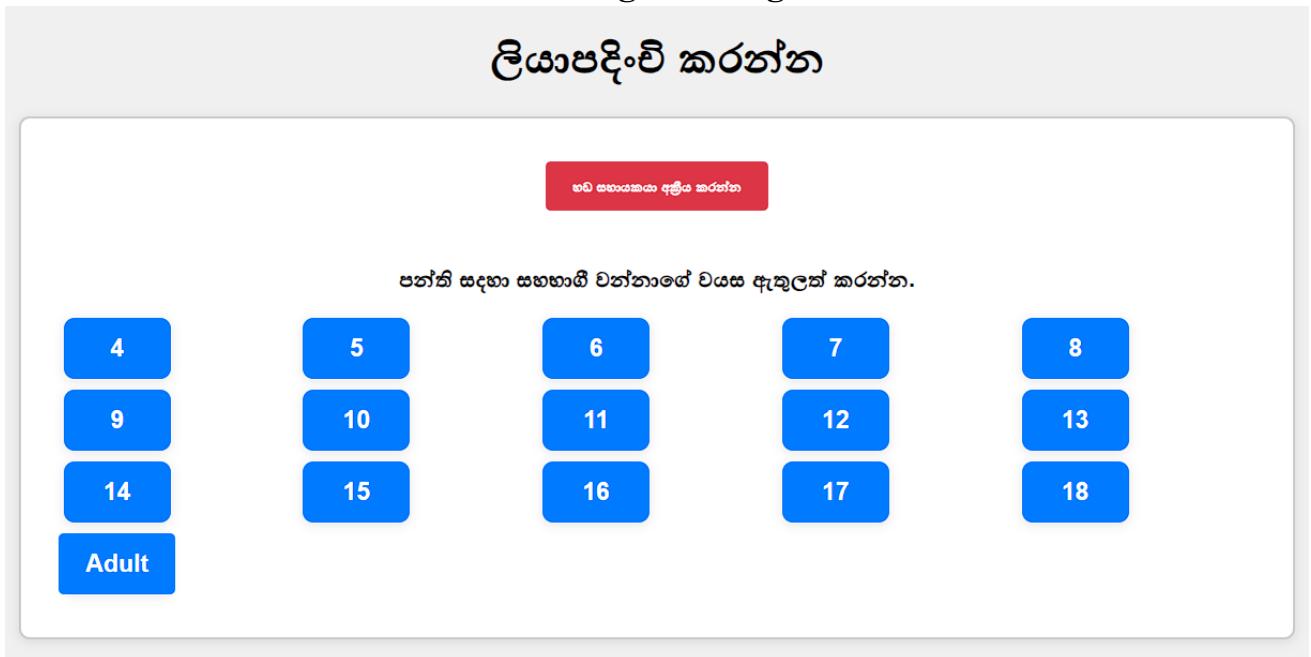


Figure 47: Student - Sinhala voice Assistance - Register - Age

4.3.2.3.8 Sinhala voice assistance – Register – Send username and password Download details

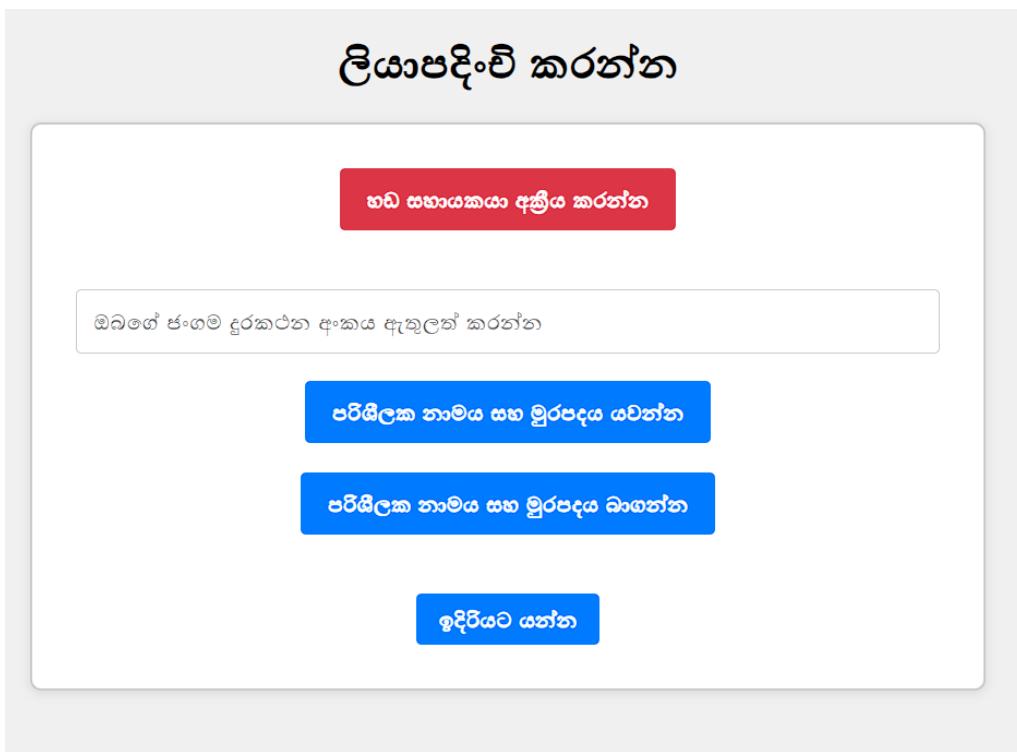


Figure 48: Student - Sinhala voice Assistance - Register - Download Details

4.3.2.3.1 Sinhala voice assistance – Register – Send username and password Download details – Voice assistance turned off

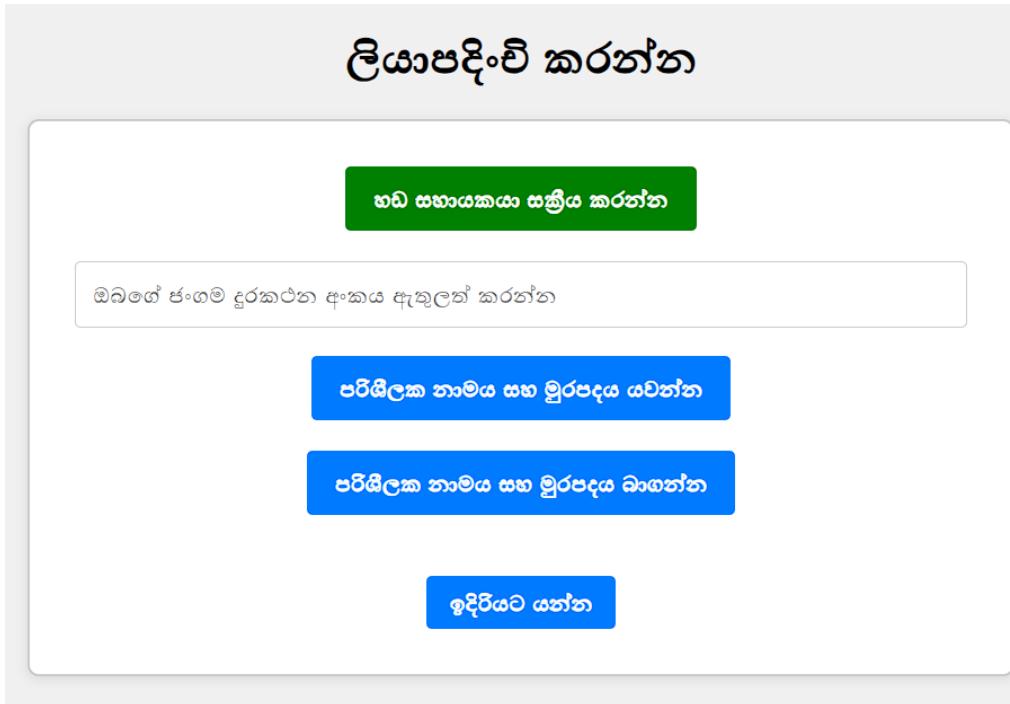


Figure 49: Student - Sinhala voice Assistance - Register - Voice assistance turned off

4.3.2.3.2 Sinhala voice assistance – Register – Send username and password Download details – Download details

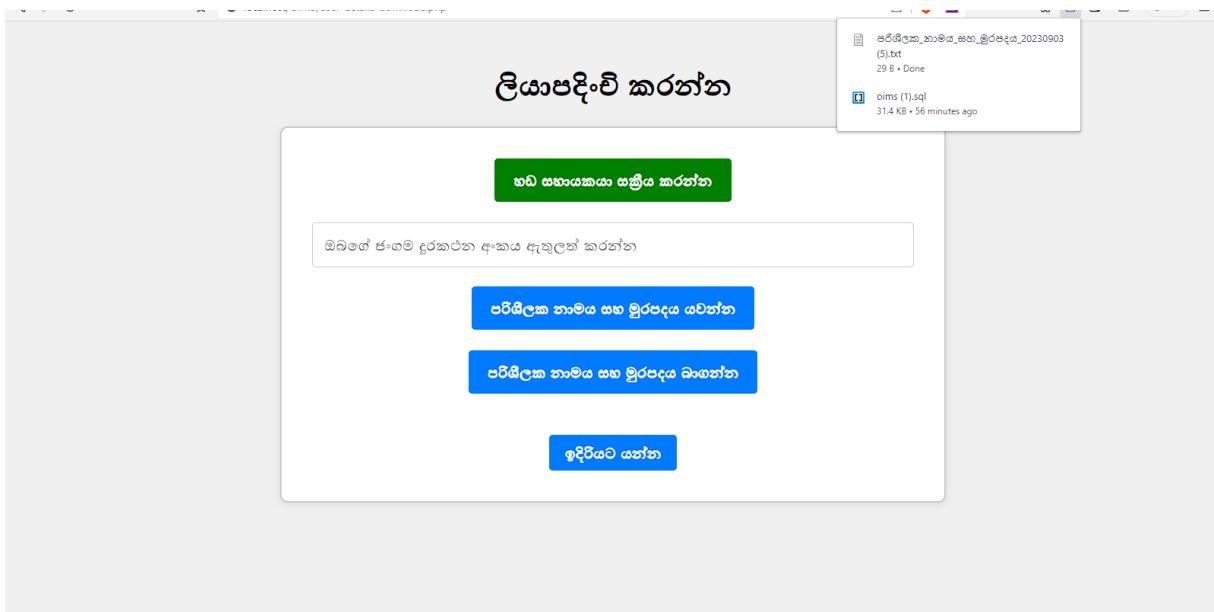


Figure 50: Student - Sinhala voice Assistance - Register - Download details

4.3.2.3.3 Sinhala voice assistance – Login - Username

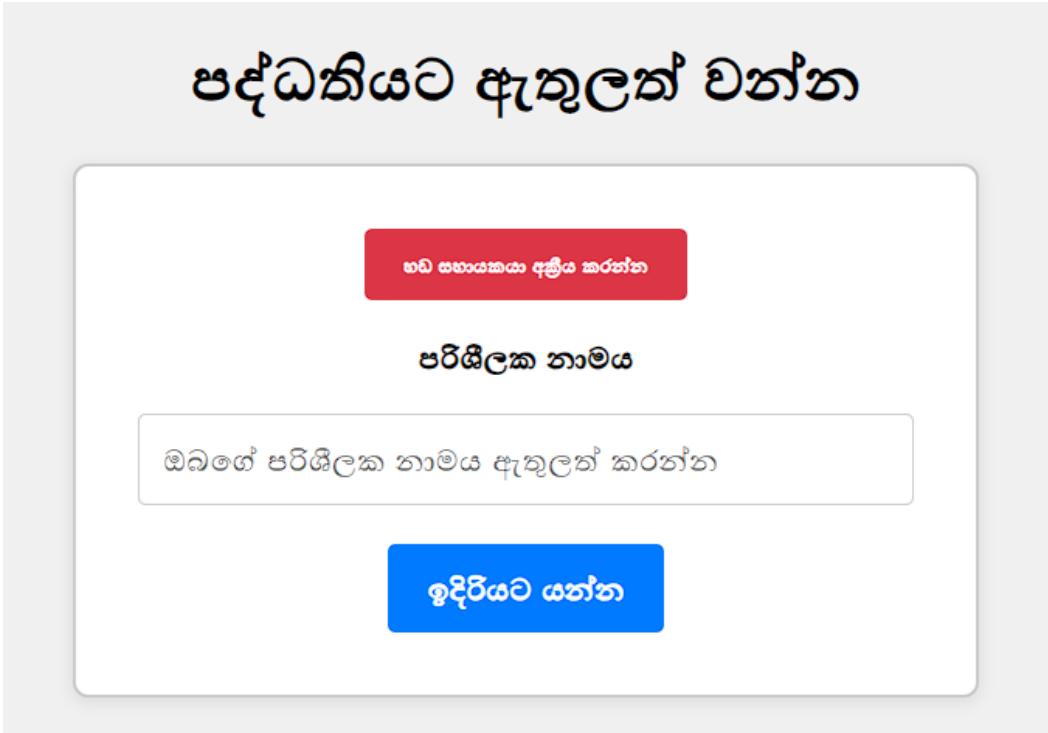


Figure 51: Student - Sinhala voice Assistance - Login - Username

4.3.2.3.4 Sinhala voice assistance – Login – Assistance turned off

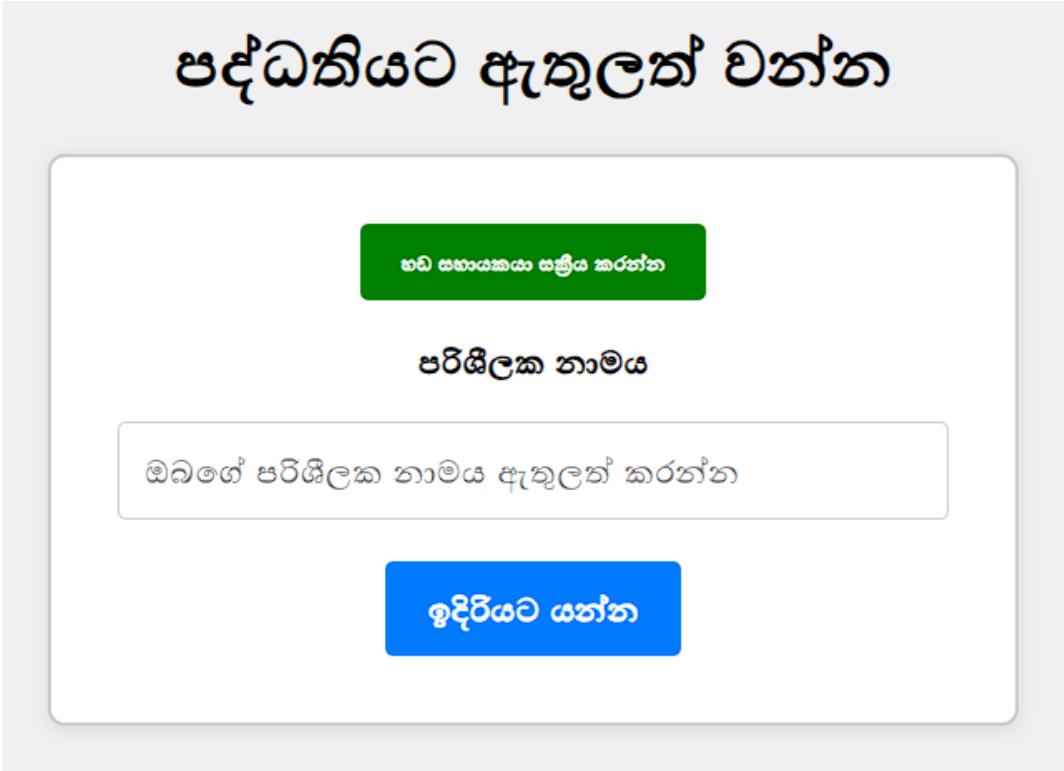


Figure 52: Student - Sinhala voice Assistance - Login - Voice assistance turned off

4.3.2.3.5 Sinhala voice assistance – Login - Password

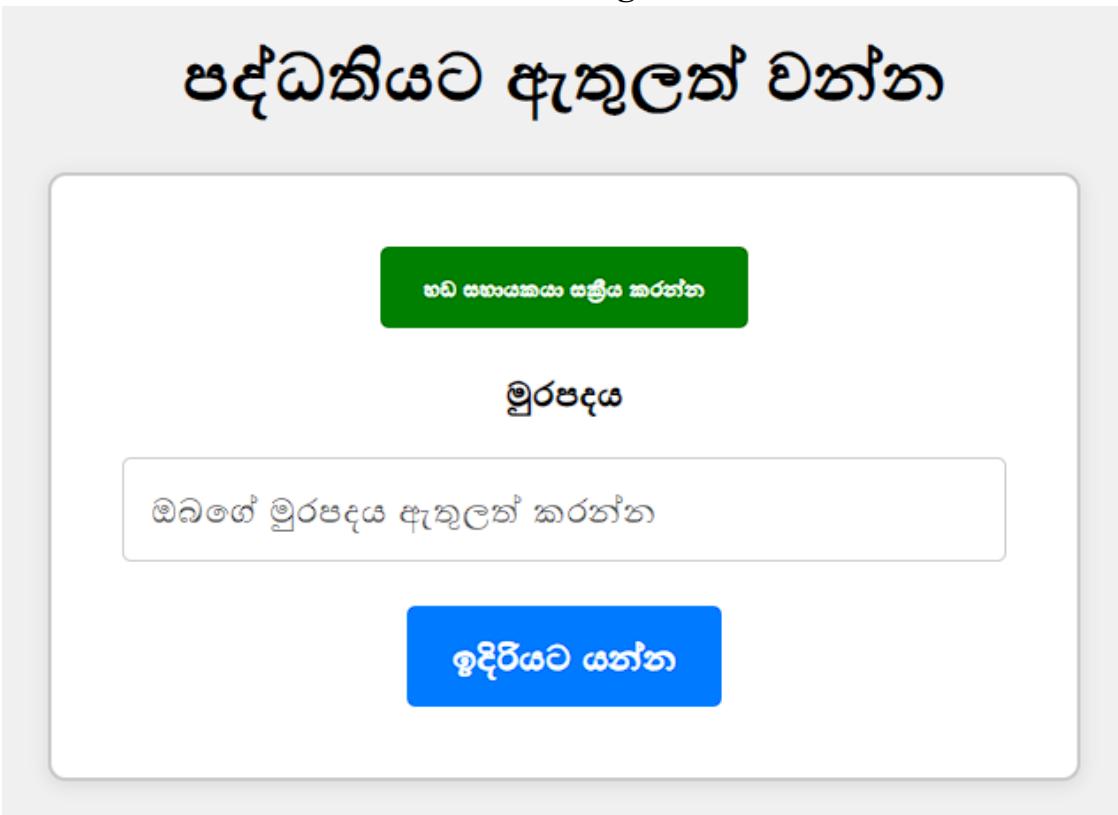


Figure 53: Student - Sinhala voice Assistance - Login - Password

4.3.2.3.6 Home

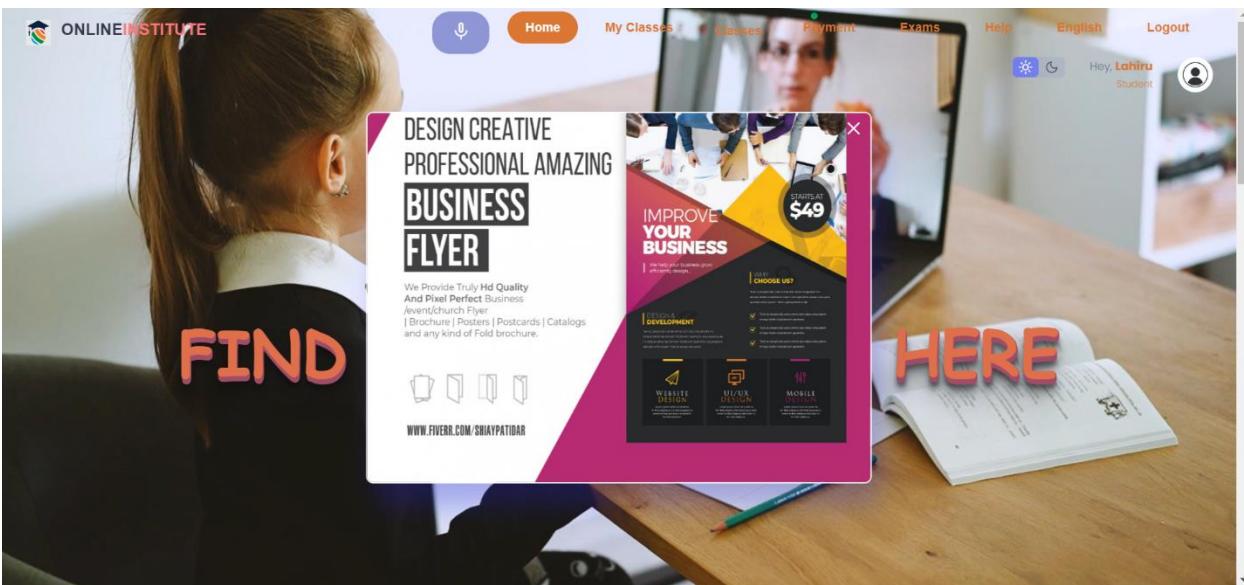


Figure 54: Student - Home

4.3.2.3.7 Home - Search

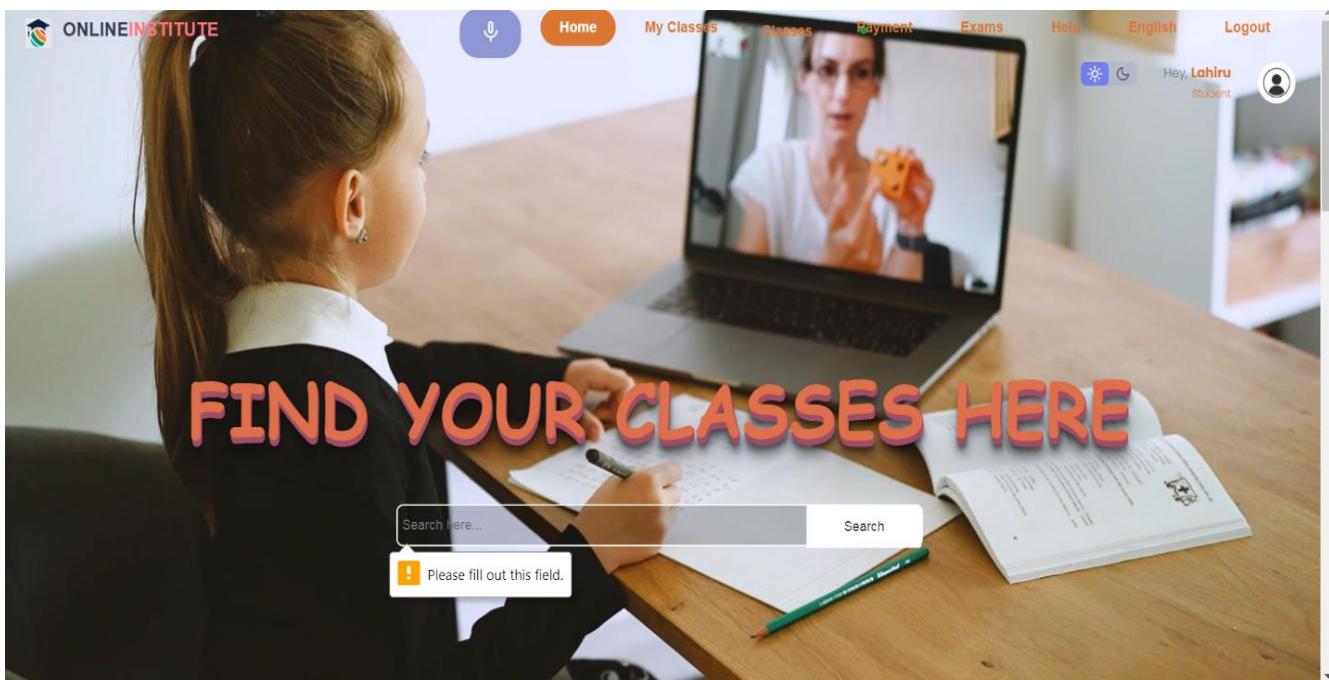


Figure 55: Student - Home - Search

4.3.2.3.8 Home - Classes

A screenshot of the 'Classes' section of the student's home interface. The title 'Classes' is centered at the top. Below it, there are ten class cards arranged in two rows of five. Each card includes a thumbnail image, the subject name, the teacher's name, a brief description, and some numerical details.

- History**
Teacher 01
A Journey to history!
Grade: 6
15:00:00
1500
- Geography**
Darshana Rajakaruna
Description goes here. Description goes here.
Grade: 9
19:34:00
2000
- Mathematics**
Teacher 01
A short description goes here.
Grade: 10
00:00:00
2000
- English**
Kamal Gunasekara
Let's learn a new language.
Grade: 3
15:00:00
1500
- ICT**
Saman Madugalla
Are you ready to embark on an exciting digital journey?
Grade: 4
15:30:00
1500

- Sinhala**
Kamal Gunasekara
Explore the Beauty of Sinhala
- Tamil**
Teacher 01
Description goes here.

Figure 56: Student - Home - Classes

4.3.2.3.9 Home – Teachers

The screenshot shows a list of teachers. On the left, there's a profile for a Sinhala teacher named Kamal Gunasekara, with a placeholder message 'Description goes here.' On the right, there's a profile for a Tamil teacher named Teacher 01, also with a placeholder message. Below these, there are four teacher profiles in blue boxes: Madugalla (placeholder), Kamal Gunasekara (placeholder), Thilini Radhika (placeholder), and Darshana Rajakaruna (partial view). Each profile includes a small photo, the teacher's name, and a 'Time Table' button.

Figure 57: Student - Home - Teacher

4.3.2.3.10 Home – Class request

The screenshot shows a class request for 'Geography - Sinhala Medium'. It features a dark purple header with the class title. Below it is a photograph of school supplies like books, a globe, and an apple on a desk. To the right, there's a placeholder text 'Description goes here. Description goes here.' and a profile for 'Darshana Rajakaruna' with her details: Grade 9, Monday at 19:34, 2 hr duration, and a fee of 2000. At the bottom, there's a note about fees and a large orange 'Request to join' button.

Figure 58: Student - Home - Class Request

4.3.2.3.11 Payment

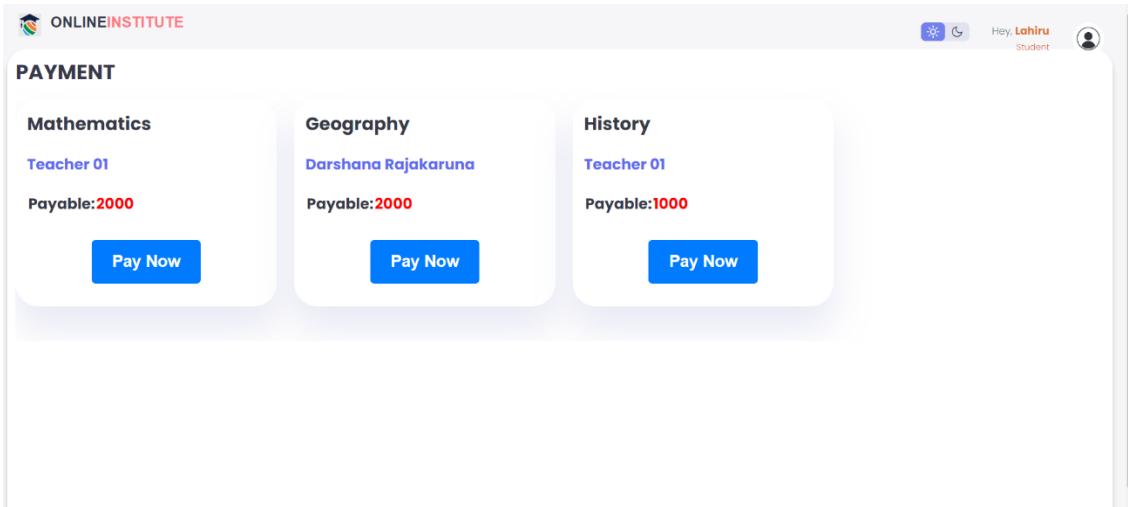


Figure 59: Student - Payment - 01

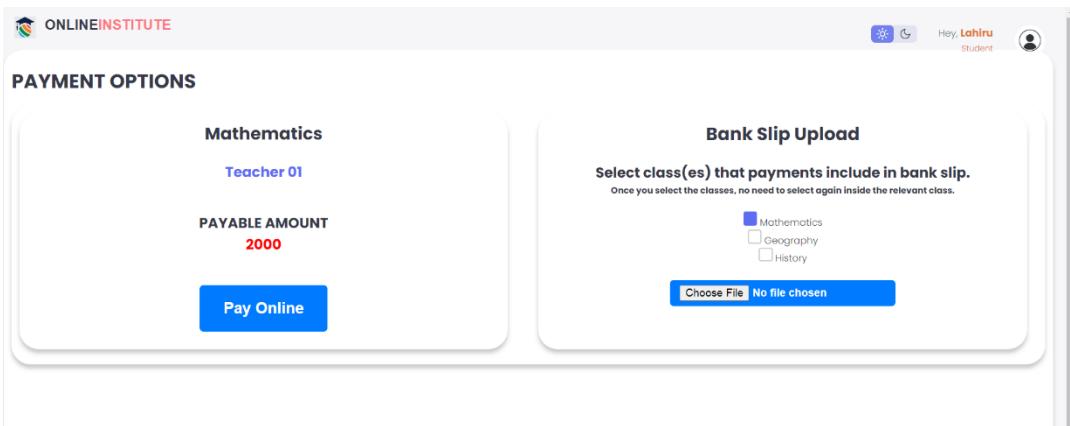


Figure 60: Student - Payment - 02

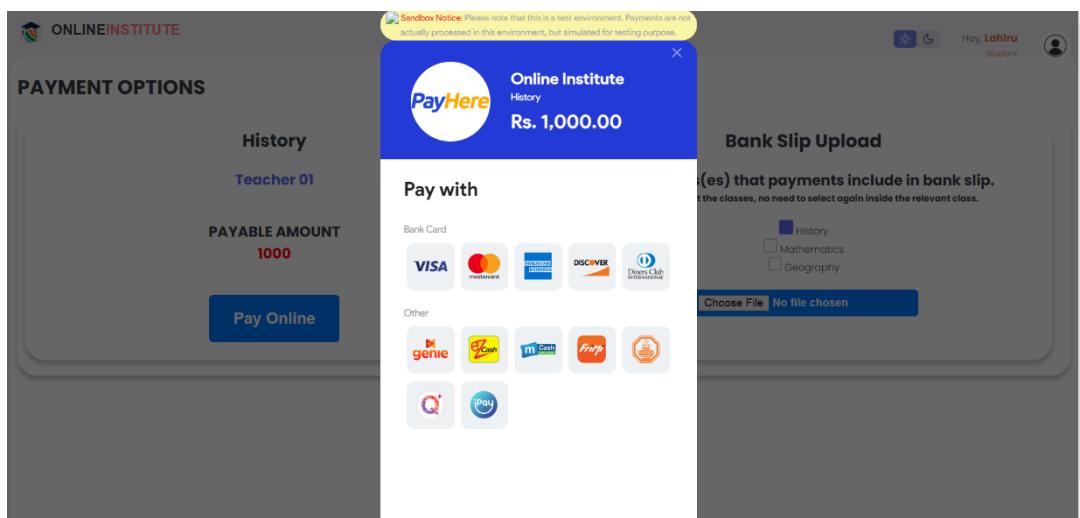


Figure 61: Student - Payment - 03

4.3.2.3.12 Homework

The screenshot shows the student's view of a homework assignment titled "C59 - Mathematics - English". The assignment is labeled "HOMEWORK". It includes instructions to "Do the paper.", with a note: "Do this paper and upload the answers as a PDF file.". The assignment details are: Opened: 2023-08-13 23:32:48 and Due: 2023-08-29 12:56:00. The results section shows sample student responses: "asdf asd as fasdfas", "asda", and "asdasd". The navigation bar on the left includes Home, Dashboard, and Exams. The top right corner shows the user profile "Hey, Lahiru Student".

Figure 62: Student - Homework

4.3.2.3.13 Exam

The screenshot shows the student's view of an exam titled "Term Test 02 - Second Exam". The exam details are: Date: 2023-09-04 18:31:00 and Subject: History - Sinhala. The navigation bar on the left includes Home, Dashboard, and Exams. The top right corner shows the user profile "Hey, Lahiru06 Student".

Figure 63: Student - Exam

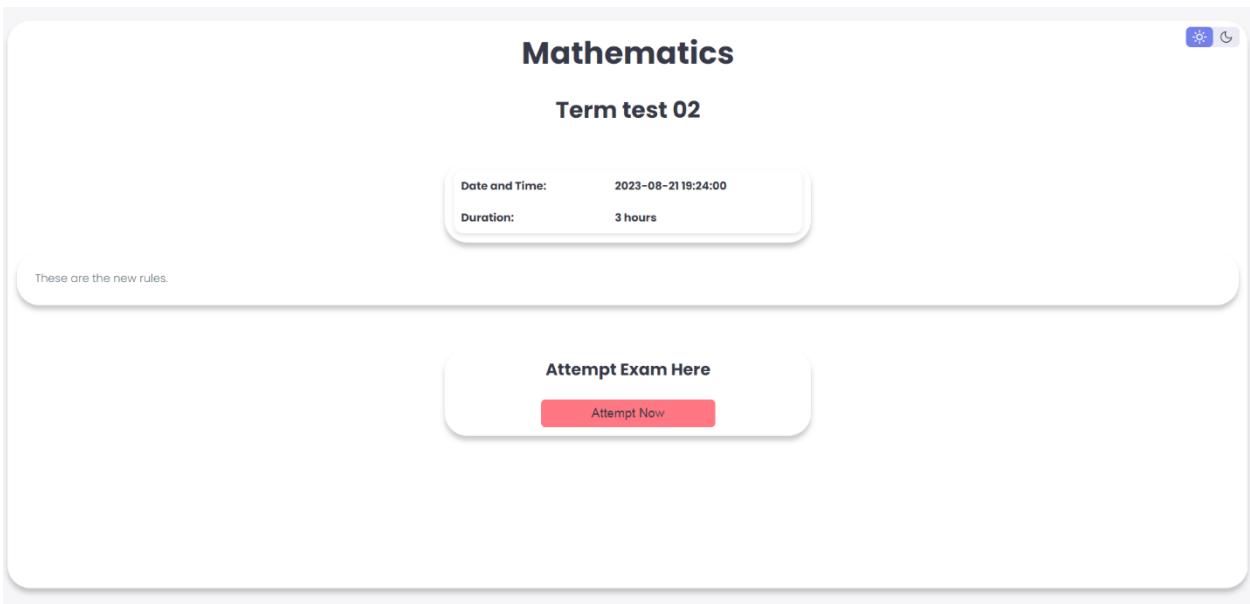


Figure 64: Student - Exam attempt

4.3.2.4 Some dark themed UIs

ONLINEINSTITUTE ADMIN MANAGEMENT

New Admin

No	ID	Username	Name	DOB	Address	Image	Email	Mob no.	Status	Action
1	E1	Lahiru06	Lahiru Sampath	1998-11-10	No 07, Kinigama, Buthpitiya		lahiru@gmail.com	755835770	Active	<button>Edit</button>
1	E3	Lahiru01	A Lahiru Sampath	2023-07-05	No 07, Kinigama, Buthpitiya		lahiru@gmail.com	755835770	Active	<button>Edit</button>
1	E4	Lahiru08	Iahiru sampath	2003-10-08	No 07, Kinigama, Buthpitiya		cavva25400@sparkroi.com	755835770	Active	<button>Edit</button>

NEW CLASS

Title: Title of the Class

Description: Description for the class

Grade:

Fee:

Teacher ID: Enter teacher ID

Select Image: Choose File No file chosen

Day:

Time:

Duration:

Language:

Status:

Cancel **Save**

Sinhala 8 Explore the Beauty of Sinhala 1000.00 T7 Tuesday - Active Edit

AGE

EDIT CLASS

Title:	Mathematics
Learn mathematics here.	
Description:	
Grade:	8
Fee:	2000
Teacher ID:	T6
Image:	
Select New Image:	<input type="button" value="Choose File"/> No file chosen
Day:	Monday
Time:	02:30 PM
Duration:	2 hr
Language:	Sinhala
Status:	Inactive

[Delete Class](#)
[Save](#)

REQUESTS TO JOIN CLASSES

S.ID	Username	Student Age	Requesting Class	Teacher ID	Action
S39	Lahiru06	22	C58 - Geography	T9	Accept Reject

[Close](#)

ONLINEINSTITUTE DASHBOARD

Hey, Lahiru06 Admin

Total Students
5

Total Teachers
5

Total Income
Rs 3000

Recent Requests

S. ID	Username	Student Age	Requesting Class	Teacher ID	Action
S39	Lahiru06	22	C58 – Geography	T9	<button>Accept</button> <button>Reject</button>

[Show all](#) [Accept all](#)

[Logout](#)

ONLINEINSTITUTE NOTIFICATION MANAGEMENT

Enter Class ID or Title [Submit](#)

Hey, Lahiru06 Admin

New Notification

N19
History class

Active: Yes [Edit](#)

N21
English class

Active: No [Edit](#)

N22
Geography class

Active: No [Edit](#)

N23
Tamil class

Active: No [Edit](#)

N31
Buddhism

Active: No [Edit](#)

N34
Geography

Active: No [Edit](#)

N35
Buddhism

Active: No [Edit](#)

N36
Sinhala

Active: No [Edit](#)

Teachers

Sinhala
Kamal Gunasekara
Explore the Beauty of Sinhala
Language!
Grade: 8
14:30:00
1000

Tamil
Teacher 01
Description goes here.
Grade: 5
16:32:00
1000

Thilini Radhika
Kasjdfkl asldjfl asdjf asdjas asld asldf a

Darshai
kasjdfkl asldjfl asdjf asdjas asld asldf a

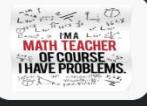
Classes



History
Teacher 01
* A Journey to history! *
Grade: 6
10:00 AM
1500



Geography
Darshana Rajakaruna
Description goes here. Description goes here.
Grade: 8
10:30 AM
2000



Mathematics
Teacher 01
A short description goes here.
Grade: 10
08:00 AM
2000



English
Kamal Gunasekara
* Lets learn a new language. *
Grade: 3
10:00 AM
1500



ICT
Saman Madugalla
* Are you ready to embark on an exciting digital journey? *
Grade: 4
10:30 AM
1500



Sinhala
Kamal Gunasekara
* Explore the Beauty of Sinhala Language! *



Tamil
Teacher 01
* Description goes here. *
Grade: 5

ONLINEINSTITUTE
Geography
Homework
Hey, Lahiru
Student

Geography - Sinhala



The link has expired

OK

HOMEWORKS

No new homeworks

Logout

ONLINEINSTITUTE
Geography
Homework
Hey, Lahiru
Student

Geography - Sinhala

Attend Class

HOMEWORKS

No new homeworks

Logout

5 Implementation

The implementation of the "Online Institute" system marks a significant advancement in modern education, leveraging technology to reshape traditional learning paradigms. With a strong focus on operational, technical, economic, schedule, and legal feasibility, this project introduces a transformative web-based platform for administrators, teachers, and students.

Administrators gain powerful tools for managing classes, exams, students, payments, teachers, notifications, and feedback. Teachers can efficiently handle assignments, exams, and real-time class updates. Students enjoy a versatile interface, enabling them to explore classes, connect with teachers, complete assignments, take exams, and make online payments.

A noteworthy addition is the Sinhala Voice Assistance, prioritizing inclusivity and catering to regional linguistic preferences. Secure login mechanisms for different user roles ensure data privacy.

This report delves into technical architecture, design considerations, development phases, and strategic choices, providing insights into the project's journey. By dissecting operational, technical, economic, schedule, and legal aspects, this report offers a holistic view of how the system was conceptualized and brought to life.

5.1 Development Environment

5.1.1 Hardware Component

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. Also, this system should run on Microsoft windows-based system.

Processor	1.9 gigahertz (GHz) x86- or x64-bit dual core processor
Memory	4GB RAM or higher
Hard disk	10GB free hard disk or higher
Display	Good VGA with a resolution of 1024 x 768
Internet	Dedicated connection to the internet

Table 13: Hardware Components

5.1.2 Software Components and the tasks

Register

Students can register to the system by their own and admins and teachers have to register by some other admin.

Login / Logout

All 3 users have to login to the system to access the system. Their capabilities are different from each other according to the role.

Class Management

Admin create and edit details in these classes and control its active or inactive part. Admin also can delete these classes. Secondly, teachers can teach using these classes. They can upload class link and let students to join the classes.

Teacher Management

Admin has the authority to control this section. Add, edit or remove and control the teachers are admin's capabilities.

Student Management

Admin has the full authority to handle this section. If the Admin wanted to ban the student, admin can easily ban the student from the system.

Homework Management

Admin has ability to look and handle activeness of the homework. Teacher has the full authority to create, edit, and delete the homework. Students can see homeworks relevant the classes that they are in.

Payments Management

This section controls by the admins. This section contains student and teachers payment details.

Exams Management

Admin can see the exams and teachers have full authority to create, edit, delete exams and questions. This contains some other features also. Students can take the exams and face the questions.

Feedback Management

This section's controller is the Admin. Admin can read and reply these feedback from students and teachers.

Notification Management

Admin has the full control of this section. Admin can create, edit and delete notifications. Only active notifications display to the students.

Admin Management

Admin has the full authority to control this section. Add and delete the admins are the things that admins can do.

5.2 Major Code Segments

In this section, you can see the common and main code segments of the system.

5.2.1 Admin logged user check

```
1  <?php include('config/constant.php') ?>
2  <?php include('./login-check.php'); ?>
3
4  <?php
5      $em_id = "0";
6      if(isset($_SESSION['em_id'])){
7          $em_id = $_SESSION['em_id'];
8      }
9
10     if($em_id == "0"){
11         $_SESSION['login-status-03'] = "error";
12         header('location: login.php');
13     }else{
14         $sql10 = "SELECT * FROM employee WHERE em_id='$em_id'";
15
16         //execute the query
17         $res10 = mysqli_query($conn, $sql10);
18
19         //count the rows to check whether we have foods or not
20         $count10 = mysqli_num_rows($res10);
21
22         if($count10>0){
23             //we have food in database
24             //get the foods from database and display
25             while($row=mysqli_fetch_assoc($res10)){
26                 //get the value from individual columns
27                 $em_id01 = $row['em_id'];
28                 $em_username01 = $row['em_username'];
29                 $em_img01 = $row['em_img'];
30
31             }
32         }
33     }
34 }
```

5.2.2 Admin Navigation bar

```
<aside>
  <div class="top">
    <div class="logo">
      
      <h2>ONLINE<span class="danger">INSTITUTE</span></h2>
    </div>
    <div class="close" id="close-btn">
      <span class="material-symbols-outlined"> close </span>
    </div>
  </div>
  <div class="sidebar">
    <a href="index.php"><span class="material-symbols-outlined"> grid_view </span><h3>Dashboard</h3></a>
    <a href="#" class="active"><span class="material-symbols-outlined"> menu_book </span><h3>Classes</h3></a>
    <a href="teacher.php"><span class="material-symbols-outlined"> group </span><h3>Teacher Panel</h3></a>
    <a href="student.php"><span class="material-symbols-outlined"> groups </span><h3>Student Panel</h3></a>
    <a href="homework.php"><span class="material-symbols-outlined"> library_books </span><h3>Homework</h3></a>
    <a href="payment.php"><span class="material-symbols-outlined"> payments </span><h3>Payments</h3></a>
    <a href="account.php"><span class="material-symbols-outlined"> account_balance </span><h3>Accounting Section</h3></a>
    <a href="exam.php"><span class="material-symbols-outlined"> auto_stories </span><h3>Exams</h3></a>
    <a href="feedback.php"><span class="material-symbols-outlined"> feedback </span><h3>Feedback</h3><span class="message-count"> 1 </span></a>
    <a href="notification.php"><span class="material-symbols-outlined"> campaign </span><h3>Notification Panel</h3></a>
    <a href="admin.php"><span class="material-symbols-outlined"> shield_person </span><h3>Admin</h3></a>
    <a href="logout.php"><span class="material-symbols-outlined"> logout </span><h3>Logout</h3></a>
  </div>
</aside>
```

5.2.3 Admin Recent Requests

```
<body>
<?php
$sql1 = "SELECT * FROM request";
//execute the query
$res1 = mysqli_query($conn, $sql1);

//count rows to check whether the category is available or not
$count1 = mysqli_num_rows($res1);

if($count1>0){
//categories available
while($row=mysqli_fetch_assoc($res1))
{
    //get the values
    $req_id1 = $row['req_id'];
    $st_id1 = $row['st_id'];
    $cl_id1 = $row['cl_id'];

    $sql2 = "SELECT * FROM student WHERE st_id = '$st_id1'";
    //execute the query
    $res2 = mysqli_query($conn, $sql2);

    //count rows to check whether the category is available or not
    $count2 = mysqli_num_rows($res2);

    if($count2>0){

        while($row=mysqli_fetch_assoc($res2))
        {
            $st_username = $row['st_username'];
            $st_age = $row['st_age'];
        }
    }
}
```

```

while($row=mysqli_fetch_assoc($res2))
{
    $st_username = $row['st_username'];
    $st_age = $row['st_age'];

    $sql3 = "SELECT * FROM class WHERE cl_id = '$cl_id1'";
    //execute the query
    $res3 = mysqli_query($conn, $sql3);

    $count3 = mysqli_num_rows($res3);

    if($count3>0){

        while($row=mysqli_fetch_assoc($res3))
        {
            $cl_title = $row['cl_title'];
            $teacher_id = $row['em_id'];

            ?>

            <tr>
                <td><?php echo $st_id; ?></td>
                <td><?php echo $st_username; ?></td>
                <td><?php echo $st_age; ?></td>
                <td><?php echo $cl_id; ?> - <?php echo $cl_title; ?></td>
                <td><?php echo $teacher_id; ?></td>
                <td class="approve">
                    <a href="req-accept.php?req_id=<?php echo $req_id1; ?>">Accept</a>
                </td>
        }
    }
}

```

```
//count rows to check whether the category is available or not
$count = mysqli_num_rows($res);

if($count>0){
//categories available
while($row=mysqli_fetch_assoc($res))
{
    //get the values
    $req_id = $row['req_id'];
    $st_id = $row['st_id'];
    $cl_id = $row['cl_id'];

    $sql2 = "SELECT * FROM student WHERE st_id = '$st_id'";
    //execute the query
    $res2 = mysqli_query($conn, $sql2);

    //count rows to check whether the category is available or not
    $count2 = mysqli_num_rows($res2);

    if($count2>0){

        while($row=mysqli_fetch_assoc($res2))
        {
            $st_username = $row['st_username'];
            $st_age = $row['st_age'];

            $sql3 = "SELECT * FROM class WHERE cl_id = '$cl_id'";
            //execute the query
            $res3 = mysqli_query($conn, $sql3);
    
```

```

while($row=mysqli_fetch_assoc($res2))
{
    $st_username = $row['st_username'];
    $st_age = $row['st_age'];

    $sql3 = "SELECT * FROM class WHERE cl_id = '$cl_id'";
    //execute the query
    $res3 = mysqli_query($conn, $sql3);

    //count rows to check whether the category is available or not
    $count3 = mysqli_num_rows($res3);

    if($count3>0){

        while($row=mysqli_fetch_assoc($res3))
        {
            $cl_title = $row['cl_title'];
            $teacher_id = $row['em_id'];

            ?>
            <tr>
                <td><?php echo $st_id; ?></td>
                <td><?php echo $st_username; ?></td>
                <td><?php echo $st_age; ?></td>
                <td><?php echo $cl_id; ?> - <?php echo $cl_title; ?></td>
                <td><?php echo $teacher_id; ?></td>
                <td class="approve">
                    <a href="req-accept.php?req_id=<?php echo $req_id; ?>">Accept</a>
                </td>
            </tr>
        }
    }
}

```

5.2.4 Admin Display Requests

```
while($row=mysqli_fetch_assoc($res2))
{
    $st_username = $row['st_username'];
    $st_age = $row['st_age'];

    $sql3 = "SELECT * FROM class WHERE cl_id = '$cl_id1'";
    //execute the query
    $res3 = mysqli_query($conn, $sql3);

    $count3 = mysqli_num_rows($res3);

    if($count3>0){

        while($row=mysqli_fetch_assoc($res3))
        {
            $cl_title = $row['cl_title'];
            $teacher_id = $row['em_id'];

            ?>

            <tr>
                <td><?php echo $st_id; ?></td>
                <td><?php echo $st_username; ?></td>
                <td><?php echo $st_age; ?></td>
                <td><?php echo $cl_id; ?> - <?php echo $cl_title; ?></td>
                <td><?php echo $teacher_id; ?></td>
                <td class="approve">
                    <a href="req-accept.php?req_id=<?php echo $req_id1; ?>">Accept</a>
                </td>
            
```

5.2.5 Admin Display search

```
<tr>
<td><?php echo $sn++; ?></td>
<td><?php echo $cl_id; ?></td>
<td><?php echo $cl_title; ?></td>
<td><?php echo $cl_grade; ?></td>
<td>
<?php
    //check whether we have image or not
    if($cl_img=="")
    {
        //we do not have image, display error message
        echo "<div class='error'> No Image Uploaded.</div>";
    }
    else
    {
        //have the image
    }
    <div class="cl-img">
        <img src=\"..../images/class/<?php echo $cl_img; ?>\" width="70" height="80">
    </div>
    <?php
    } ?>
</td>
<td><?php echo $cl_description; ?></td>
<td><?php echo $cl_fee; ?>.00</td>
<td><?php echo $em_id; ?></td>
<td><?php echo $cl_lan; ?></td>
<td><?php echo $cl_duration; ?></td>
<td><?php echo $cl_day . " - " . $cl_time; ?> </td>
<td>
<?php
    if($cl_status=="Active"){ ?>
        <div class="success">
```

5.2.6 Admin search results

```
if(isset($_POST['searchSubmit'])){  
    $searches = $_POST['search'];  
  
    $sql3 = "SELECT * FROM class WHERE cl_id LIKE '%$searches%' OR cl_title LIKE '%$searches%'";  
  
    $res3 = mysqli_query($conn, $sql3);  
  
    //count the rows  
    $count3 = mysqli_num_rows($res3);  
  
    //check whether food available or not  
    if($count3>0)  
    {  
        //food available  
        while($row=mysqli_fetch_assoc($res3))  
        {  
            //get the details  
            $sn = 1;  
            $cl_id = $row['cl_id'];  
            $cl_title = $row['cl_title'];  
            $cl_description = $row['cl_description'];  
            $cl_grade = $row['cl_grade'];  
            $cl_fee = $row['cl_fee'];  
            $cl_status = $row['cl_status'];  
            $cl_img = $row['cl_img'];  
            $em_id = $row['em_id'];  
            $cl_duration = $row['cl_duration'];  
            $cl_time = $row['cl_time'];  
            $cl_day = $row['cl_day'];  
            $cl_lan = $row['cl_lan'];  
        }  
    }  
}
```

5.2.7 Admin time and date difference

```
while($row=mysqli_fetch_assoc($res5)) {  
  
    $st_id = $row['st_id'];  
    $st_username = $row['st_username'];  
    $st_img01 = $row['st_img']; ?>  
  
    <div class="profile-photo">  
          
    </div>  
    <div class="message">  
        <p><b><?php echo $st_username; ?></b> joined the class - <?php echo $cl_id02; ?></p>  
        <small class="text-muted">  
            <?php  
  
                if ($timeDifference->d > 0) {  
                    echo $timeDifference->d . ' days';  
                } elseif ($timeDifference->h > 0) {  
                    echo $timeDifference->h . ' hours';  
                } elseif ($timeDifference->i > 0) {  
                    echo $timeDifference->i . ' minutes';  
                } else {  
                    echo $totalSeconds . ' seconds';  
                }  
                echo " ago.";  
            ?>  
        </small>  
    </div>  
  
<?php  
}  
}
```

5.2.8 HTML Modal

```
<!-- ----- Modal ----->  
    <div id="myModal" class="modal">  
        <!-- Modal content -->  
        <div class="modal-content">  
            <span class="close" onclick="closeModal()">&times;</span>  
            <div id="modalContent">  
                <!-- Class details will be displayed here -->  
            </div>  
        </div>  
    </div>  
<!-- ----- End of Modal ----->
```

5.2.9 Open Modal

```
<script src="./index.js"></script>

<script>

    let popup = document.getElementById("popup");

    function openPopup(){
        popup.classList.add("open-popup");
    }

    function closePopup(){
        popup.classList.remove("open-popup");
    }

    let popup1 = document.getElementById("popup1");

    function openPopup1(){
        popup1.classList.add("open-popup1");
    }

    function closePopup1(){
        popup1.classList.remove("open-popup1");
    }

</script>
```

5.2.10 Load modal using AJAX

```
$ajax({
    url: 'class-process.php',
    method: "POST",
    data: { item: item },
    success: function (response) {
        // Check if response is valid
        if (typeof response === 'object' && response !== null) {
            // Populate the modal with the retrieved content
            modalContent.innerHTML =
                <div class="popup1">
                    <h2>EDIT CLASS</h2>
                    <form action="update-class.php" method="post" enctype="multipart/form-data">
                        <table>
                            <tr>
                                <td>Title: </td>
                                <td>
                                    <input type="text" name="title" placeholder="Title of the Class" required value="${response.cl_title}">
                                </td>
                            </tr>
                            <tr>
                                <td>Description: </td>
                                <td>
                                    <textarea name="description" cols="30" rows="5" required placeholder="Description for the class">${response.cl_desc}</textarea>
                                </td>
                            </tr>
                            <tr>
                                <td>Grade: </td>
                                <td>
                                    <select name="grade" required>
                                        <option value="${response.cl_grade}">${response.cl_grade}</option>
                                    </select>
                                </td>
                            </tr>
                        </table>
                    </form>
                </div>
        }
    }
})
```

5.2.11 Profile and Themes

```
<div class="right">
    <div class="top">
        <button id="menu-btn">
            <span class="material-symbols-outlined">menu</span>
        </button>
        <div class="theme-toggler">
            <span class="material-symbols-outlined active">light_mode</span>
            <span class="material-symbols-outlined">dark_mode</span>
        </div>
        <div class="profile">
            <div class="info">
                <p>Hey, <b><?php echo $em_username01; ?></b></p>
                <small class="text-muted">Admin</small>
            </div>
            <div class="profile-photo">
                
            </div>
        </div>
    </div>
    <!-------END OF TOP----->
```

5.2.12 Sweet Alert with Session

```
<?php if(isset($_SESSION['login-status-01'])){ ?>
    <script>
        swal({
            title: "Successfully Logged in",
            icon: "success",
            button: "OK",
        });
    </script>
<?php     unset($_SESSION['login-status-01']); } ?>
```

5.2.13 Add Class

```
1  <?php include('../config/constant.php') ?>
2
3  <?php
4      //check whether the button clicked or not
5      if(isset($_POST['submit'])){
6          //add the food in database
7          //get the data from form
8          $cl_title = $_POST['title'];
9          $cl_description = $_POST['description'];
10         $cl_grade = $_POST['grade'];
11         $cl_fee = $_POST['cl_fee'];
12         $em_id = $_POST['teacher'];
13         $cl_day = $_POST['day'];
14         $cl_time = $_POST['time'];
15         $cl_duration = $_POST['duration'];
16         $cl_lan = $_POST['language'];
17         $cl_status = $_POST['status'];
18
19         //upload the image if selected
20         //check whether the select image is clicked or not and upload the image if the image is selected
21         if(isset($_FILES['image']['name'])){
22             //get the details of the selected image
23             $image_name = $_FILES['image']['name'];
24
25             //check whether the image is selected or not and upload image only if selected
26             if($image_name!=""){
27                 //image is selected
28                 //rename the image
29                 //get the extension selected(lpg, png, jpeg, etc.)
30                 $ext = end(explode('.',$image_name));
31
32                 //create new name for image
33                 $image_name = "Class-Name-".rand(0000,9999).".". $ext; //new image name
34             }
35         }
36     }
37
38     //insert the data into database
39     $sql = "INSERT INTO class SET cl_title = '$cl_title', cl_description = '$cl_description', cl_grade = '$cl_grade', cl_fee = '$cl_fee', em_id = '$em_id', cl_day = '$cl_day', cl_time = '$cl_time', cl_duration = '$cl_duration', cl_lan = '$cl_lan', cl_status = '$cl_status'";
40     $result = mysqli_query($conn,$sql);
41
42     if($result){
43         //image uploaded successfully
44         echo "Class Added Successfully";
45     } else {
46         echo "Error: " . $sql . "  
" . mysqli_error($conn);
47     }
48
49     //close the connection
50     mysqli_close($conn);
51
52     //redirect to index page
53     header("Location: index.php");
54
55     //exit the script
56     exit();
57 }
```

```

34 //source path is the current location of the image
35 $src = $_FILES['image']['tmp_name'];
36
37 //Destination path for the image to be uploaded
38 $dst = "../images/class/".$image_name;
39
40 //finaly upload the food image
41 $upload = move_uploaded_file($src, $dst);
42
43 //check whether image uploaded or not
44 if($upload == false)
45 {
46     die();
47 }
48 }
49 }
50 else
51 {
52     $image_name = ""; //selected defalut value as blank
53 }
54
55
56 $sql2 = "INSERT INTO class SET
57     cl_title = '$cl_title',
58     cl_description = '$cl_description',
59     cl_grade = '$cl_grade',
60     cl_fee = '$cl_fee',
61     cl_status = '$cl_status',
62     cl_img = '$image_name',
63     em_id = '$em_id',
64     cl_duration = '$cl_duration',
65     cl_time = '$cl_time',

```

```

60 |         cl_fee = '$cl_fee',
61 |         cl_status = '$cl_status',
62 |         cl_img = '$image_name',
63 |         em_id = '$em_id',
64 |         cl_duration = '$cl_duration',
65 |         cl_time = '$cl_time',
66 |         cl_day = '$cl_day',
67 |         cl_lan = '$cl_lan'
68 |
69 |     //execute the query
70 |     $res2 = mysqli_query($conn, $sql2);
71 |
72 |     $sql3 = "SELECT * FROM class ORDER BY id DESC LIMIT 1";
73 |
74 |     //execute the query
75 |     $res3 = mysqli_query($conn, $sql3);
76 |
77 |     $count3 = mysqli_num_rows($res3);
78 |
79 |     if($count3>0){
80 |         while($row=mysqli_fetch_assoc($res3)){
81 |
82 |             $id = $row['id'];
83 |         }
84 |
85 |         $id1 = "C".$id;
86 |
87 |         $sql4 = "UPDATE class SET cl_id= '$id1' WHERE id = $id";
88 |
89 |         $res4 = mysqli_query($conn, $sql4);
90 |
91 |         if($res2 == true){
92 |
93 |             $sql5 = "INSERT INTO teacher_enroll SET

```

```

93     $sql15 = "INSERT INTO teacher_enroll SET
94         cl_id = '$id1',
95         em_id = '$em_id'
96     ";
97
98     //execute the query
99     $res5 = mysqli_query($conn, $sql15);
100
101    if($res5 == true){
102
103        $sql16 = "SELECT * FROM teacher_enroll ORDER BY id DESC LIMIT 1";
104
105        //execute the query
106        $res6 = mysqli_query($conn, $sql16);
107
108        $count6 = mysqli_num_rows($res6);
109
110        if($count6>0){
111
112            while($row=mysqli_fetch_assoc($res6)){
113                //get the value from individual columns
114                $id = $row['id'];
115            }
116
117            $id2 = "TE".$id;
118
119            $sql17 = "UPDATE teacher_enroll SET em_enr_id = '$id2' WHERE id = $id";
120
121            $res7 = mysqli_query($conn, $sql17);
122
123            if($res7 == true){
124                //data inserted successfully
125                $_SESSION['cls-add-ok'] = "OK";
126
127            }
128            else{
129                $_SESSION['cls-add-error'] = "error";
130                header('location: class.php');
131            }
132        }
133    }
134    else{
135        //failed to insert data
136        $_SESSION['cls-add-error-01'] = "error";
137        header('location: class.php');
138    }
139
140 }
141 ]
142 else{
143     header('location: class.php');
144 }
145
146 ?>

```

5.2.14 Update Class

```
1  <?php include('config/constant.php') ?>
2
3  <?php
4      if(isset($_POST['update']))
5      {
6          $cl_id = $_POST['cl_id'];
7          $cl_title = $_POST['title'];
8          $cl_description = $_POST['description'];
9          $cl_grade = $_POST['grade'];
10         $cl_fee = $_POST['cl_fee'];
11         $em_id = $_POST['em_id'];
12         $cl_day = $_POST['day'];
13         $cl_time = $_POST['time'];
14         $cl_duration = $_POST['duration'];
15         $cl_lan = $_POST['language'];
16         $cl_status = $_POST['status'];
17         $cl_img = $_POST['cl_img'];
18
19         if(isset($_FILES['image01']['name']))
20         {
21             $image_name = $_FILES['image01']['name'];
22
23             if($image_name!="")
24             {
25                 $ext = end(explode('.',$image_name));
26                 $image_name = "Class-Name-".rand(0000, 9999).'.'.$ext;
27
28                 //get the destination path
29                 $src_path = $_FILES['image01']['tmp_name'];//source path
30                 $dest_path = "../images/class/".$image_name;//destination path
31
32                 //upload the image
33                 $upload = move_uploaded_file($src_path, $dest_path);
```

```

33
34
35
36
37
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42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
    $upload = move_uploaded_file($src_path, $dest_path);

    //check whether the image is uploaded or not
    if($upload == false)
    {
        //failed to upload
        $_SESSION['update_image-error'] = "<div class='error'>Failed To Upload The Image.</div><br><br>";
        header('location: admin/class.php');
        die();
    }

    // remove the current image if available
    if($cl_img!="")
    {
        //current image is available
        //remove the image if uploaded
        $remove_path = "../images/class/".$cl_img;
        $remove = unlink($remove_path);

        //check whether image is removed or not
        if($remove == false)
        {
            //failed to remove current image
            $_SESSION['update_image-error'] = "<div class='error'>Failed To Remove The Current Image.</div><br><br>";
            header('location: '.SITEURL.'admin/class.php');
            die();
        }
    }
}

```

```
        }
    else
    {
        $image_name = $cl_img;
    }
}
else
{
    $image_name = $cl_img;
}

$sql = "UPDATE class SET
    cl_title = '$cl_title',
    cl_description = '$cl_description',
    cl_status = '$cl_status',
    cl_grade = '$cl_grade',
    cl_fee = '$cl_fee',
    cl_img = '$image_name',
    em_id = '$em_id',
    cl_duration = '$cl_duration',
    cl_time = '$cl_time',
    cl_day = '$cl_day',
    cl_lan = '$cl_lan'
    WHERE cl_id='$cl_id'
";

$res = mysqli_query($conn, $sql);

if($res==true){
```

```
92
93     $sql2 = "UPDATE teacher_enroll SET
94         em_id = '$em_id'
95         WHERE cl_id='$cl_id'
96         ";
97
98     //execute the query
99     $res2 = mysqli_query($conn, $sql2);
100
101    if($res2 == true){
102        $_SESSION[ 'update_image-ok' ] = "<div class='success'>Ok</div><br><br>";
103        header('location:class.php');
104    } else{
105        $_SESSION[ 'update_image-error' ] = "<div class='error'>Error</div><br><br>";
106        header('location:class.php');
107    }
108
109    ?>
110    <!-- <meta http-equiv = "refresh" content = "0; url =manage-food.php" /> -->
111    <?php
112    }
113    else
114    {
115        //failed to update
116        $_SESSION[ 'update_image-error' ] = "<div class='error'>Error</div><br><br>";
117        header('location:class.php');
118    }
119
120 }
121 ?>
```

5.2.15 Delete Class

```
1 <?php
2 //include constant page
3 include('config/constant.php');
4
5 //check whether value is passed
6 if(isset($_GET['id']) && isset($_GET['image_name']))
7 {
8     $cl_id = $_GET['id'];
9     $image_name = $_GET['image_name'];
10
11    if($image_name!="")
12    {
13
14        $path = "../images/class/".$image_name;
15
16
17        $remove = unlink($path);
18
19        if($remove==false)
20        {
21            die();
22        }
23    }
24
25 //delete from database
26 $sql = "DELETE FROM class WHERE cl_id='".$cl_id."'";
27
28 //execute the query
29 $res = mysqli_query($conn, $sql);
30
31 //check whethtr the query exetued or not
32 if($res==true)
33 {
```

```

25 //delete from database
26 $sql = "DELETE FROM class WHERE cl_id='$cl_id'";
27
28 //execute the query
29 $res = mysqli_query($conn, $sql);
30
31 //check whethr the query exetued or not
32 if($res==true)
33 {
34     //food dleted
35     $_SESSION['delete'] = "<div class='success'>Drink Deleted Successfully.</div><br><br>";
36     header('location:./class.php');
37 }
38 else
39 {
40     //$_SESSION['delete'] = "<div class='error'>Failed To Delete Drink.</div><br><br>";
41     header('location:' . SITEURL . 'admin/manage-food.php');
42 }
43
44 }
45 else
46 [
47     //$_SESSION['unauthorized'] = "<div class='error'>Unauthorized Access.</div><br><br>";
48     header('location:' . SITEURL . 'admin/manage-food.php');
49 ]
50
51
52
53 ?>

```

5.2.16 Login

```
<body>
  <form action="" method="post">
    <h3>Login Here</h3>

    <label for="username">Username</label>
    <input type="text" placeholder="Enter your Username" name="username" required>

    <label for="password">Password</label>
    <input type="password" placeholder="Password" name="password" required>

    <button type="submit" name="submit">Log In</button>
    <div class="social">
      <div class="go"><i class="fab fa-google"></i> Google</div>
      <div class="fb"><i class="fab fa-facebook"></i> Facebook</div>
    </div>
  </form>
  <?php
    if(isset($_SESSION['login-status-02'])){ ?>
    <script>
      swal("Login Failed!", "Invalid Username or Password", "error");
    </script>
    <?php unset($_SESSION['login-status-02']); ?>

    <?php
      if(isset($_SESSION['login-status-03'])){ ?>
      <script>
        swal("Login Failed!", "Something went wrong!", "warning");
      </script>
    <?php unset($_SESSION['login-status-03']); ?>
```

```

<?php

if(isset($_POST['submit'])){

    $username = $_POST['username'];
    $password = md5($_POST['password']);

    $sql = "SELECT * FROM employee WHERE em_username ='$username' AND em_password='$password'";

    $res = mysqli_query($conn, $sql);

    $count = mysqli_num_rows($res);

    if($count==1){

        while($row=mysqli_fetch_assoc($res)){

            $em_id = $row['em_id'];
            $em_position = $row['em_position'];
        }
        if($em_position == "Admin"){

            $_SESSION['em_id'] = $em_id; // pass the id
            $_SESSION['login-status-01'] = "ok";
            header('location: index.php');

        }else{

            $_SESSION['em_id_teacher'] = $em_id; // pass the id
            $_SESSION['login-status-01'] = "ok";
            header('location: ../teacher/index.php');
        }
    }
}

```

5.2.17 Register

```
<div class="form-container">

<form autocomplete="off" action="" method="post" enctype="multipart/form-data">
    <input type="hidden" id="action" value="register">
    <h3>Register Now</h3>
    <table>
        <tr>
            <td>
                <input type="text" name="st_username" required placeholder="Enter your username" id="username">
                <span id="usernameCheck"></span>
            </td>
            <td><input type="email" name="g_email" required placeholder="Enter your email"></td>
        </tr>
        <tr>
            <td><input type="password" name="pass" required placeholder="Enter your password"></td>
            <td><input type="password" name="cpass" required placeholder="confirm your password"></td>
        </tr>
        <tr>
            <td><input type="text" name="st_name" required placeholder="Enter your full name"></td>
            <td><input type="date" name="st_dob" required></td>
        </tr>
        <tr>
            <td><input type="text" name="g_name" required placeholder="Enter guardian's first name"></td>
            <td><input type="tel" name="st_phone" required placeholder="Enter your mobile number"></td>
        </tr>
        <tr>
            <td colspan=2><input type="text" col="30" name="st_address" required placeholder="Enter your address"></td>
        </tr>
        <tr>
            <td colspan=2><button type="submit" name="submit" id="register">Register</button></td>
        </tr>
    </table>
</form>
```

```

        <tr>
            <td colspan=2><button type="submit" name="submit" id="register">Register</button></td>
        </tr>
    </table>
    <p class="link">Already have an account? <a href="login.php">Login now</a></p>
</form>

</div>

</body>
</html>

<?php if(isset($_SESSION['add-error'])){ ?>
    <script>
        swal("Registration Failed!", "Please try again!", "error");
    </script>
<?php unset($_SESSION['add-error']); } ?>

<?php if(isset($_SESSION['pass-match'])){ ?>
    <script>
        swal("Registration Failed!", "Passwords don't match!", "error");
    </script>
<?php unset($_SESSION['pass-match']); } ?>

<?php
if(isset($_POST['submit'])){
    $st_username = $_POST['st_username'];
    $g_email = $_POST['g_email'];
    $pass = md5($_POST['pass']);
    $cpass = md5($_POST['cpass']);
    $st_name = $_POST['st_name'];
}

```

```

if(isset($_FILES['image']['name'])){

$image_name = $_FILES['image']['name'];

if($image_name!=""){

$ext = end(explode('.', $image_name));

$image_name = "Student-Name-".rand(0000,9999).".".$ext;

$src = $_FILES['image']['tmp_name'];

$dst = "./images/profile-pic/".$image_name;

$upload = move_uploaded_file($src, $dst);

if($upload == false)

{

die();

}

}

else

{



$image_name = "";}

if($cpass == $pass){

date_default_timezone_set('Asia/Colombo');

$currentTime = new DateTime();

$cdate = date('y-m-d');

}

```

```

$st_age = date_diff(date_create($st_dob), date_create($cdate));
$st_age1 = $st_age ->format("%y");

$sql = " SELECT * FROM student WHERE st_username = '$st_username' && st_password = '$pass' ";

$res = mysqli_query($conn, $sql);

$insert = "INSERT INTO student(st_username, g_email, st_password, st_name, st_dob, st_age, st_address, st_img, st_phone, g_name, reg_date, status) VALUES('{$st_username}', '{$g_email}', '{$st_password}', '{$st_name}', '{$st_dob}', '{$st_age1}', '{$st_address}', '{$st_img}', '{$st_phone}', '{$g_name}', now(), '1')";

mysqli_query($conn, $insert);

$sql3 = "SELECT * FROM student ORDER BY id DESC LIMIT 1";

//execute the query
$res3 = mysqli_query($conn, $sql3);

$count3 = mysqli_num_rows($res3);

if($count3>0){

    while($row=mysqli_fetch_assoc($res3)) {

        $id = $row['id'];
    };

    $id1 = "S".$id;

    $sql4 = "UPDATE student SET st_id= '$id1' WHERE id = $id";

    $res4 = mysqli_query($conn, $sql4);

    if($res4 == true){
        $sql4 = "UPDATE student SET st_id= '$id1' WHERE id = $id";

        $res4 = mysqli_query($conn, $sql4);

        if($res4 == true){

            $_SESSION['add-success'] = "Ok";
            echo "<script> window.location.replace('login.php');</script>";
        }?
        <?php
        }
        else{
            $_SESSION['add-error'] = "error";
            echo "<script> window.location.replace('register_form.php');</script>";
            die();
        }
    }

} else{
    $_SESSION['pass-match'] = "error";
    echo "<script> window.location.replace('register_form.php');</script>";
}
?>

<script type="text/javascript">
$(document).ready(function(){
    $('#username').blur(function(){
        var username = $(this).val();

```

6 Testing and Evaluation

6.1 Test Plan and Test Cases

6.1.1 Test Plan Overview

The test plan for the "Online Institute" project is designed to comprehensively evaluate the system's functionality, performance, and reliability. The primary objective of this testing phase is to ensure that the web-based platform, equipped with Sinhala Voice Assistance, meets its intended goals of providing efficient educational services to administrators, teachers, and students. Our testing strategy encompasses a range of scenarios, from user authentication and access control to class management, homework submissions, and online payment processing. Rigorous testing will be conducted to identify and address any potential issues, ensuring a seamless user experience across various devices and web browsers. This test plan outlines the testing approach, criteria for success, and the testing schedule to ensure that the "Online Institute" project meets its quality and functionality standards before deployment.

6.1.2 Test Cases

Test cases writing is a major part of the system testing process. It guides testing process to do in order and make system's weaknesses and strength listed. Here are few Test Cases regarding Online Institute Handling System.

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_SREGISTER_001	Enter valid username, Enter valid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter valid username, Enter valid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Enter valid username, Enter valid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Successful Registered

TC_SREGISTER_002	Enter already exist username, Enter valid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter already exist username, Enter valid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Username – Lahiru01 And other valid details	Display error message as "Username not available"
TC_SREGISTER_003	Enter valid username, Enter invalid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter valid username, Enter invalid email, Enter valid password, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Email – lahiru@gmail.com And other valid details	Display error message as "Please enter valid email"

TC_SREGISTER_004	Enter valid username, Enter valid email, Enter don't matching passwords, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter valid username, Enter invalid email, Enter don't matching passwords, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter valid contact number, Enter valid password	password – lahiru123 confirm password - lahiru456 And other valid details	Display error message as "Passwords don't match."
TC_SREGISTER_005	Enter valid username, Enter valid email, Enter valid passwords, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter invalid contact number, Enter valid password	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter valid username, Enter invalid email, Enter don't matching passwords, Enter valid full name, Enter valid date of birth, Enter valid guardian's fist name, Enter valid address, Enter invalid contact number, Enter valid password	Mobile number – 034-32930-3 And other valid details	Display error message as "Please enter valid mobile number."
TC_SREGISTER_006	Enter invalid username, Enter invalid email, Enter invalid passwords, Enter invalid full name, Enter invalid date of birth, Enter invalid guardian's fist name, Enter invalid	Brows the Online Institute and select register	1. Browse the website 2. Select Online Institute Website 3. Click Registration 4. Enter invalid username, Enter invalid email,	Enter invalid username, Enter invalid email, Enter invalid passwords, Enter invalid full name, Enter invalid date of birth, Enter	From can't submit

	address, Enter invalid contact number, Enter invalid password		Enter invalid passwords, Enter invalid full name, Enter invalid date of birth, Enter invalid guardian's fist name, Enter invalid address, Enter invalid contact number, Enter invalid password	invalid guardian's fist name, Enter invalid address, Enter invalid contact number, Enter invalid password	
--	---	--	--	---	--

Table 14: Test Case - Student Registration

Test Case ID	Test Case Name	Prerequisite	Test Step	Input Data	Expected Result
TC_SLOG_001	Student login check valid Email and password	Should be a registered Student.	1)First go to website's login page. 2)Displayed login page 3) Enter valid Email and password. 5)Finally click on Login button.	Input valid Email Input valid Password	Successful Login
TC_SLOG_002	Student login check valid Email and invalid password	Should be a registered Student.	1)First go to website's login page. 2)Displayed login page 3) Enter valid Email and invalid password. 5)Finally click on Login button.	Input valid Email Input invalid Password	Displayed "Invalid Email or Password" error message

TC_SLOG_003	Student login check invalid Email and valid password	Should be a registered Student.	1)First go to website's login page. 2)Displayed login page 3) Enter invalid Email and valid password . 5)Finally click on Login button.	Input invalid Email Input valid Password	Displayed "Invalid Email or Password" error message
TC_SLOG_004	Student login check invalid Email and password	Should be a registered Student.	1)First go to website's login page. 2)Displayed login page 3) Enter invalid Email and password. 5)Finally click on Login button.	Input invalid Email Input invalid Password	Displayed "Invalid Email or Password" error message

Table 15: Test Case - Student Login

Test Case ID	Test Case Name	Prerequisite	Test Step	Input Data	Expected Result
TC_ELOG_001	Employee login check valid Email and password	Should be a registered Employee	1)First go to back-end login page. 2)Displayed login page 3) Enter valid Email and password. 5)Finally click on	Input valid Email Input valid Password	Successful Login

			Login button.		
TC_ELOG_002	Employee login check valid Email and invalid password	Should be a registered Employee	1)First go to back-end login page. 2)Displayed login page 3) Enter valid Email and invalid password. 5)Finally click on Login button.	Input valid Email Input invalid Password	Displayed "Invalid Email or Password" error message
TC_ELOG _003	Employee login check invalid Email and valid password	Should be a registered Employee	1)First go to back-end login page. 2)Displayed login page 3) Enter invalid Email and valid password . 5)Finally click on Login button.	Input invalid Email Input valid Password	Displayed "Invalid Email or Password" error message
TC_ELOG _004	Employee login check invalid Email and password	Should be a registered Employee	1)First go to back-end login page. 2)Displayed login page 3) Enter invalid Email and password. 5)Finally click on	Input invalid Email Input invalid Password	Displayed "Invalid Email or Password" error message

			Login button.	
--	--	--	---------------	--

Table 16: Test Case - Employee Login

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_CLASS_CREATION_01	Enter valid class title, description, grade, fee, status, image, employee id, class duration, class time, class day and language	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Add class	Enter valid class title, valid description, valid grade, valid fee, valid status, valid image, valid employee id, valid class duration, valid class time, valid class day and valid language	Display “Successfully created class”
TC_CLASS_CREATION_02	Enter valid class title, description, grade, fee, status, employee id, class duration, class time, class day, language and enter invalid image	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Add class	Enter valid class title, valid description, valid grade, valid fee, valid status, valid employee id, valid class duration, valid class time, valid class day, valid language and invalid image	Display warning “Invalid image”

TC_CLASS_CREATION_03	Enter invalid class title, description, grade, fee, status, employee id, class duration, class time, class day, language and image	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Add class	Enter invalid class title, invalid description, invalid grade, invalid fee, invalid status, invalid employee id, invalid class duration, invalid class time, invalid class day, invalid language and invalid image	Can't submit the form
----------------------	--	----------------------------------	---	--	-----------------------

Table 17: Test Case - Class Creation

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_CLASS_EDIT_001	Enter valid class title, description, grade, fee, status, image, employee id, class duration, class time, class day and language	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Edit class	Enter valid class title, valid description, valid grade, valid fee, valid status, valid image, valid employee id, valid class duration, valid class time, valid class day and valid language	Display “Successfully saved details”

TC_CLASS_EDIT_002	Enter valid class title, description, grade, fee, status, employee id, class duration, class time, class day, language and enter invalid image	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Edit class	Enter valid class title, valid description, valid grade, valid fee, valid status, valid employee id, valid class duration, valid class time, valid class day, valid language and invalid image	Display warning "Invalid image"
TC_CLASS_EDIT_003	Enter invalid class title, description, grade, fee, status, employee id, class duration, class time, class day, language and image	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Edit class	Enter invalid class title, invalid description, invalid grade, invalid fee, invalid status, invalid employee id, invalid class duration, invalid class time, invalid class day, invalid language and invalid image	Can't submit the form and display mistakes user did

Table 18: Test Case - Class Edit

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_CLASS_DELETE_01	Delete the class	Should log into a admin account.	1. Login into admin account 2. Go to Class 3. Click Edit class	Press Edit button Press Delete button and then press OK	Display "Successfully Deleted"

Table 19: Test Case - Delete Class

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_TEACHER_CREATI N_001	Enter valid username, name, date of birth, address, image, password, email, phone number and status	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Add Teacher	Enter valid username, valid name, valid date of bird, valid address, valid image, valid password, valid email, valid phone number and valid status	Display "Successfuly created teacher account"
TC_TEACHER_CREATI N_002	Enter valid name, date of birth, address, image, password, email, phone number and status and invalid username	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Add Teacher	Enter valid name, valid date of bird, valid address, valid image, valid password, valid email, valid phone number and valid status and invalid username	Display "Username Already Exist! Try again."
TC_TEACHER_CREATI N_003	Enter invalid name, date of birth, address, image, password, email, phone number and status and username	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Add Teacher	Enter invalid name, invalid date of bird, invalid address, invalid image, invalid password, invalid email, invalid phone number and invalid status and invalid username	Can't submit the form and display mistakes user did

Table 20: Test Case - Teacher Addition

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_TEACHER_EDIT_001	Enter valid username, name, date of birth, address, image, password, email, phone number and status	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Edit button	Enter valid username, valid name, valid date of bird, valid address, valid image, valid password, valid email, valid phone number and valid status	Display “Successfully Saved”
TC_TEACHER_EDIT_002	Enter valid name, date of birth, address, image, password, email, phone number and status and invalid username	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Edit button	Enter valid name, valid date of bird, valid address, valid image, valid password, valid email, valid phone number and valid status and invalid username	Display “User already exists!”
TC_TEACHER_EDIT_003	Enter invalid name, date of birth, address, image, password, email, phone number and status and username	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Edit button	Enter invalid name, invalid date of birth, invalid address, invalid image, invalid password, invalid email, invalid phone number and invalid status and invalid username	Can't submit the form and display mistakes user did

Table 21: Test Case - Teacher Edit

Test Case ID	Test Case Description	Preconditions	Test Step	Input Data	Expected Result
TC_TEACHER_DELETE_E_001	Delete the teacher	Should log into a admin account.	1. Login into admin account 2. Go to Teacher 3. Click Edit class	Press Edit button Press Delete button and then press OK	Display “Successfully Deleted”

Table 22: Test Case - Delete Teacher

6.2 Test Data and Test Results

6.2.1 Register Verifications and errors.

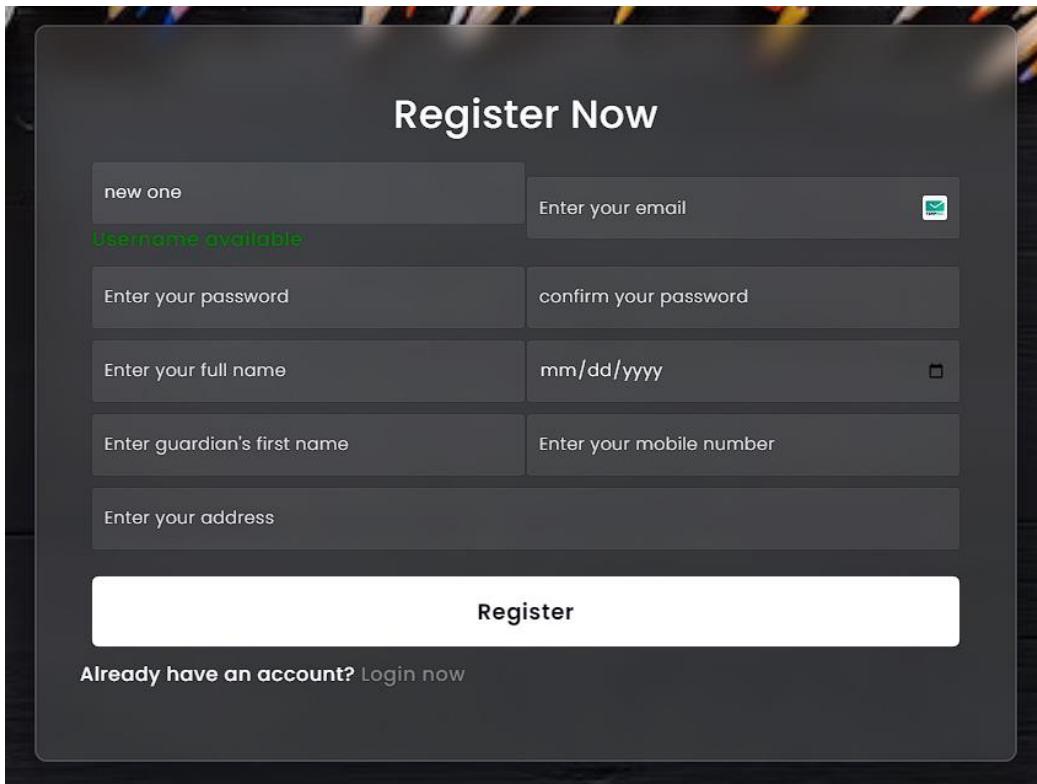
Register Now

Username available

Enter your password	confirm your password
Enter your full name	mm/dd/yyyy
Enter guardian's first name	Enter your mobile number
Enter your address	

Register

Already have an account? [Login now](#)



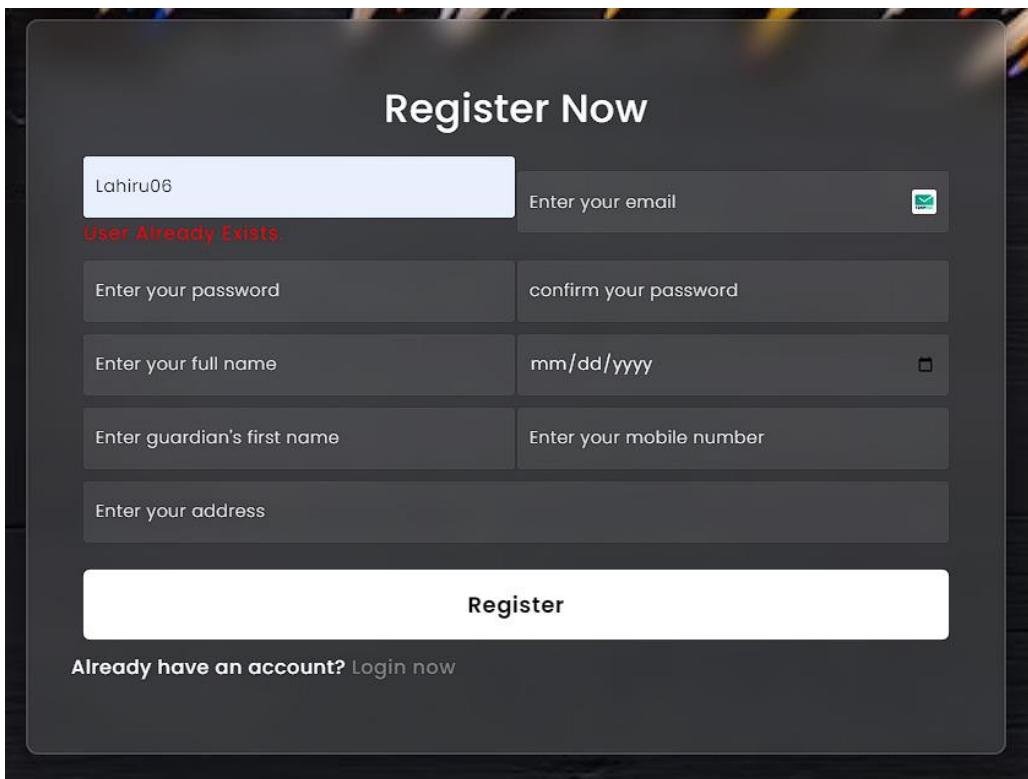
Register Now

User Already Exists.

Enter your password	confirm your password
Enter your full name	mm/dd/yyyy
Enter guardian's first name	Enter your mobile number
Enter your address	

Register

Already have an account? [Login now](#)



Register Now

new one

Username available

lasjfdl/.com 

Enter your password  Please include an '@' in the email address. 'lasjfdl/.com' is missing an '@'.

Enter your full name

mm/dd/yyyy

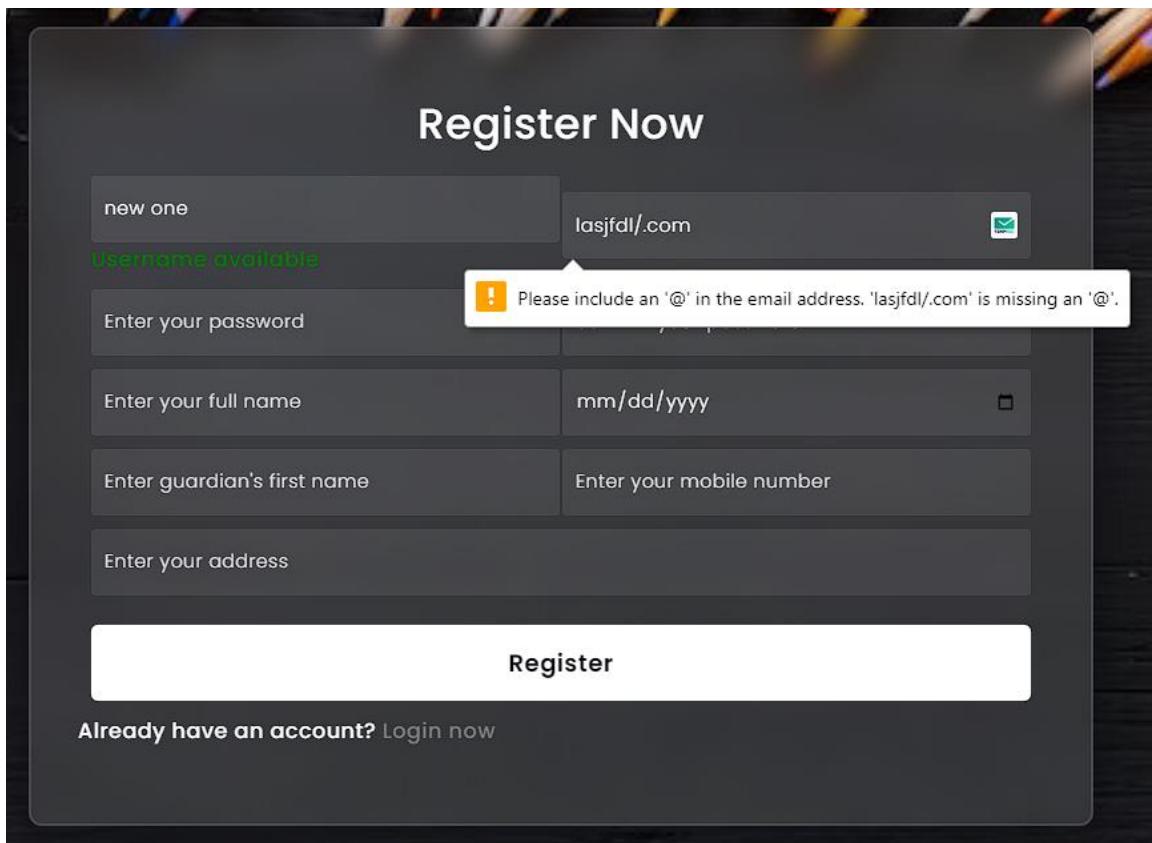
Enter guardian's first name

Enter your mobile number

Enter your address

Register

Already have an account? [Login now](#)



Register Now

Enter your username

Enter your email 

Enter your password

Enter your full name

Enter guardian's first name

Enter your address

Profile Picture

Register

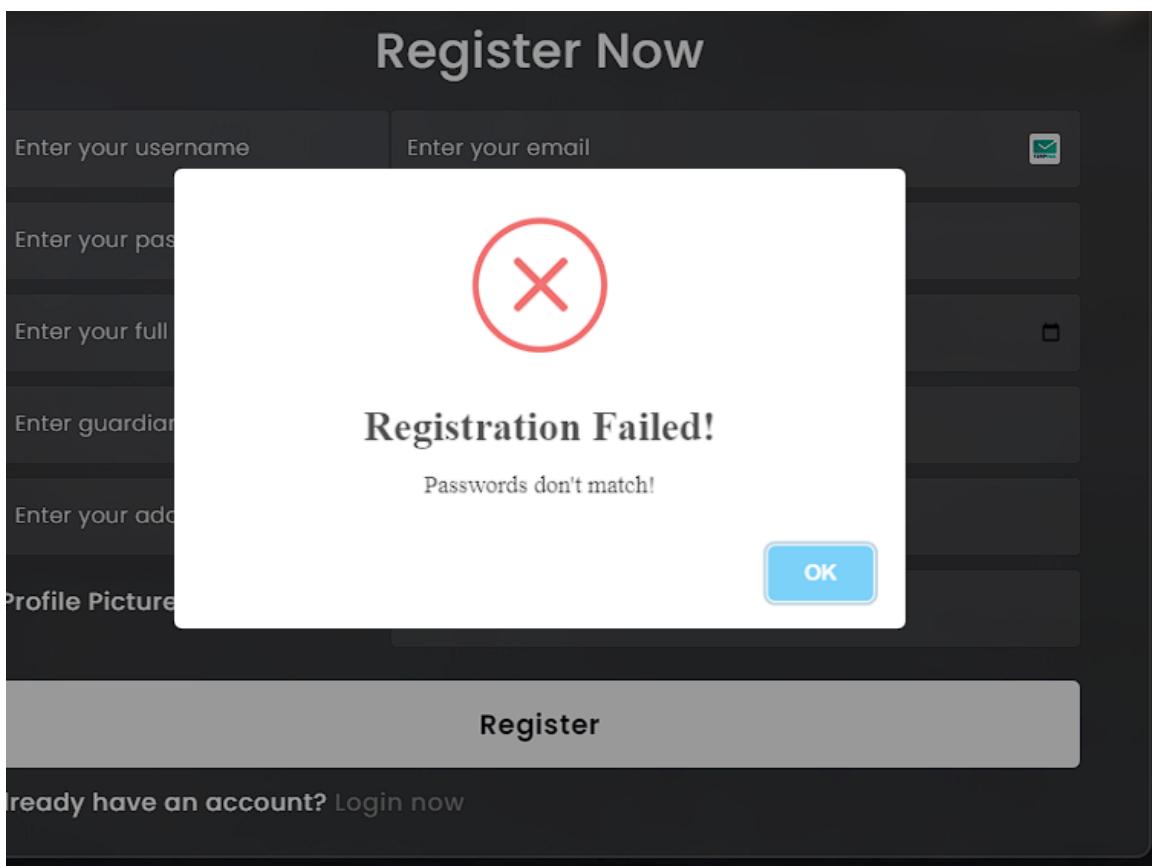
Already have an account? [Login now](#)



Registration Failed!

Passwords don't match!

OK



Register Now

Lahiru  lahiru@google.com

Username available

.. ..

Lahiru Sampath 11/10/1998

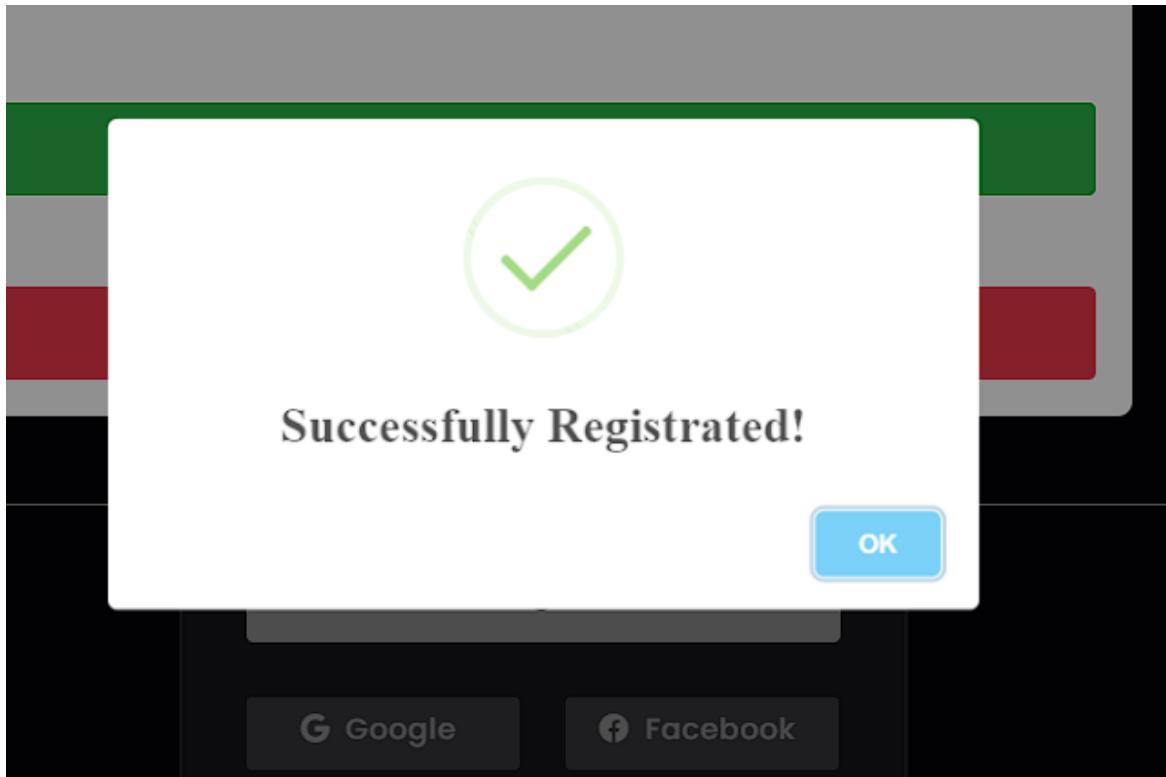
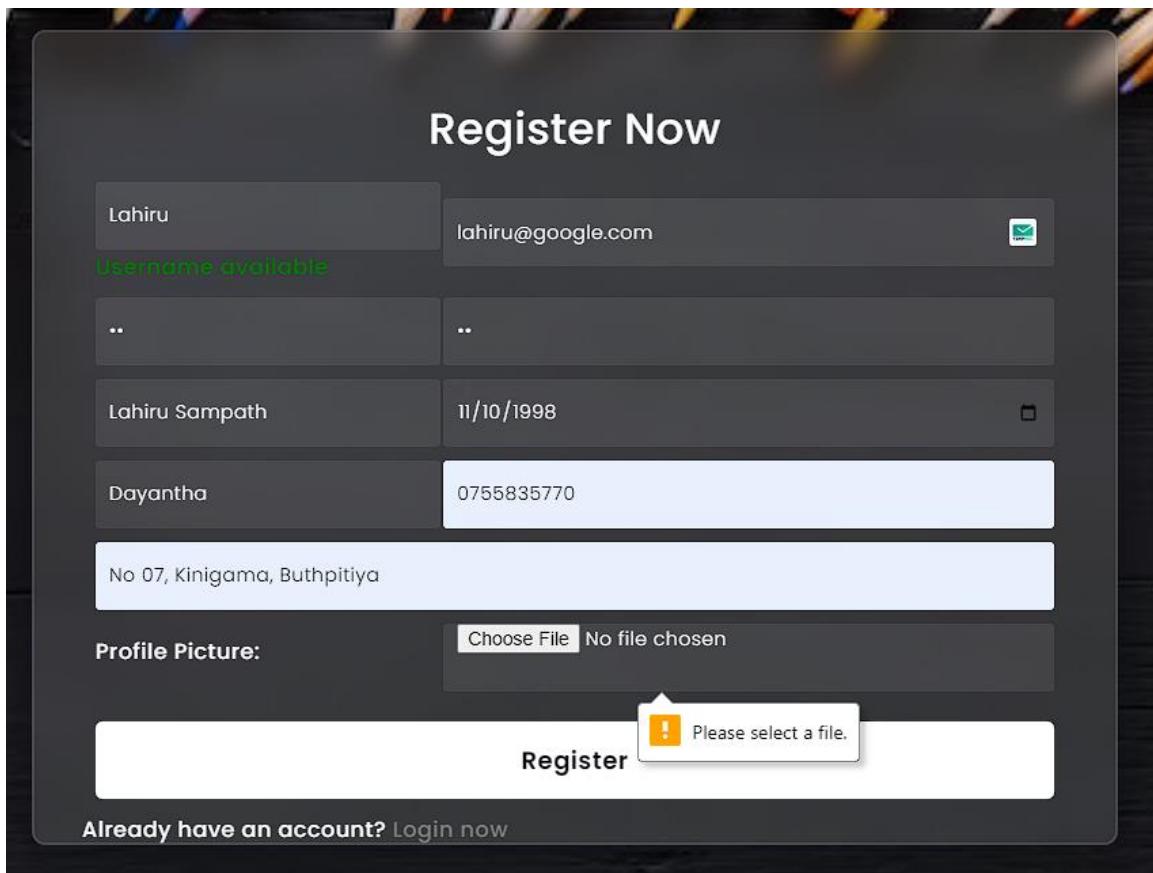
Dayantha 0755835770

No 07, Kinigama, Buthpitiya

Profile Picture: Choose File No file chosen

Register Please select a file.

Already have an account? [Login now](#)



6.2.2 Login Verification and errors.

Login Here

Username

Enter your Username

>Password

Please fill out this field.

Log In

G Google **F Facebook**

Need to register? Register now

This screenshot shows a login interface with a dark background. At the top is a title 'Login Here'. Below it is a 'Username' field containing placeholder text 'Enter your Username'. A 'Password' field is below it, which has a red exclamation mark icon and the error message 'Please fill out this field.' A large 'Log In' button is centered at the bottom. Below the button are two social login options: 'G Google' and 'F Facebook'. At the very bottom is a link 'Need to register? Register now'.

Login Here

Username

lahiru

Password

Password

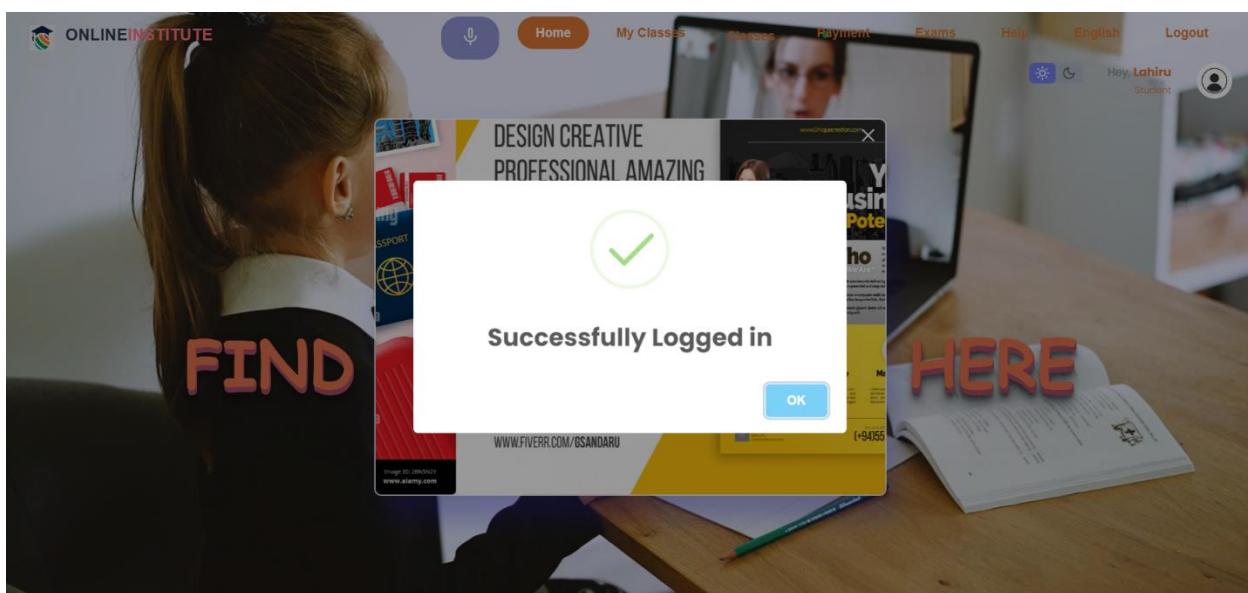
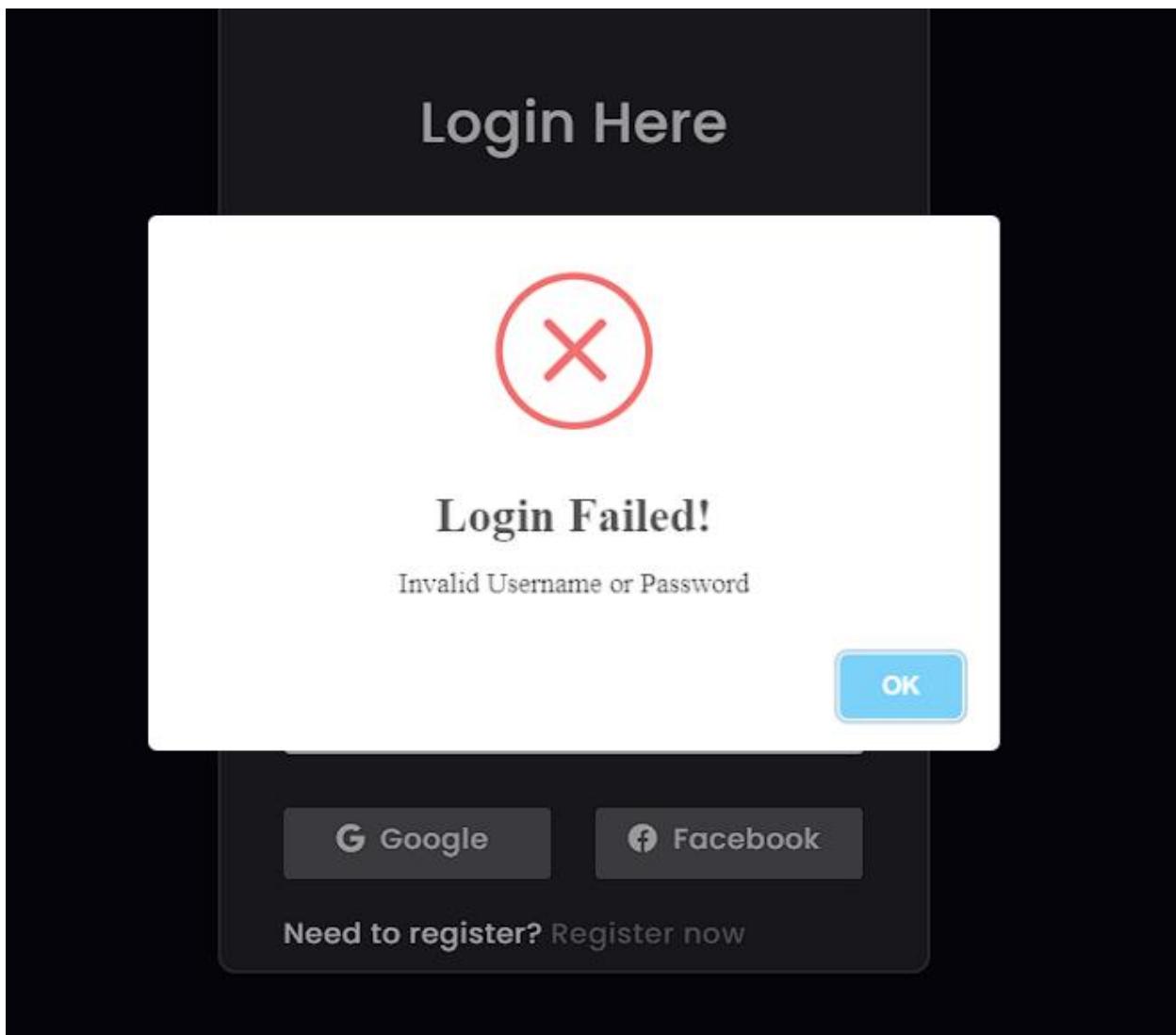
Please fill out this field.

Log In

G Google **F Facebook**

Need to register? Register now

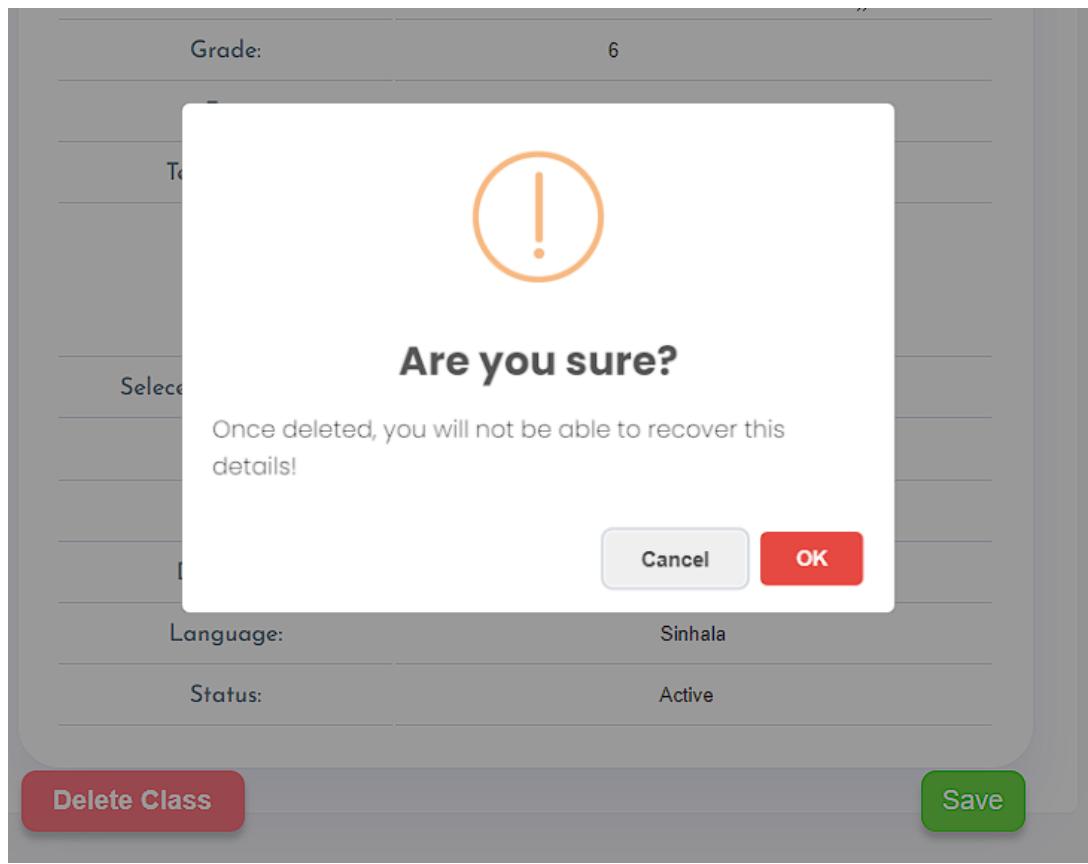
This screenshot shows the same login interface as the first one, but with some changes. The 'Username' field now contains the value 'lahiru'. The 'Password' field is empty and has the same red exclamation mark and error message as before. The rest of the interface, including the 'Log In' button, social login options, and registration link, remains the same.



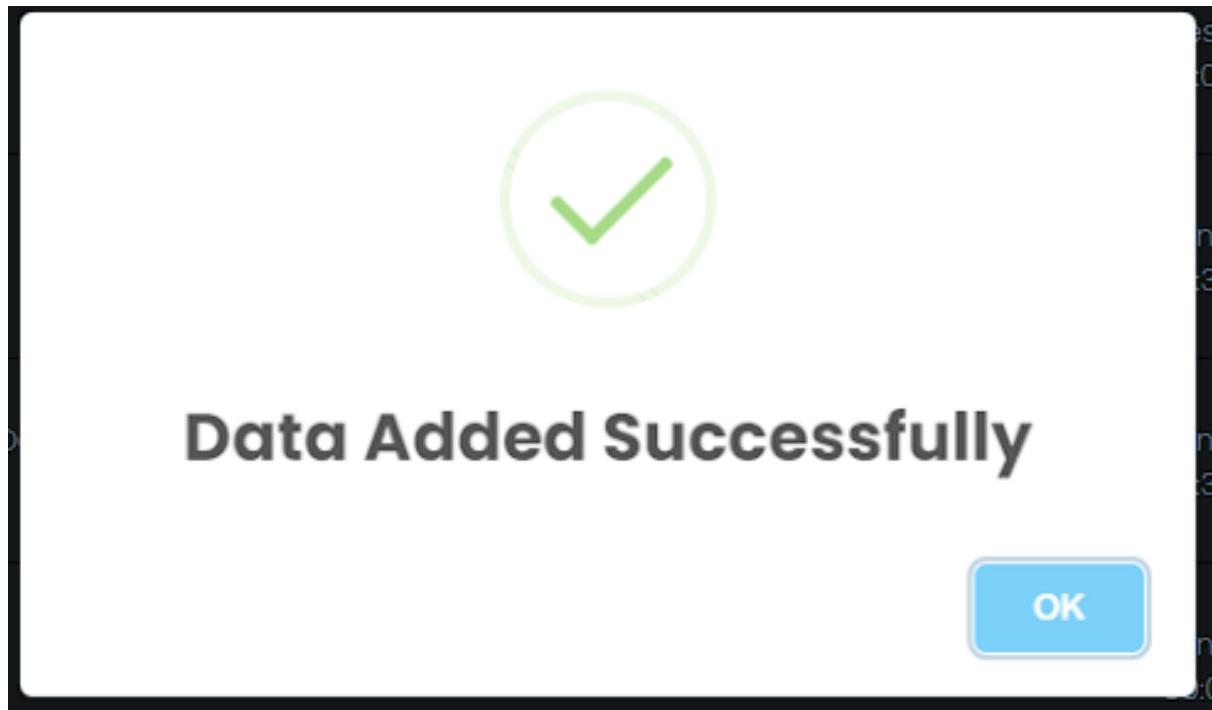
6.2.3 Class management

Image	Description	Fee	Teacher	Language	Duration	Day and Time	Status
						Wednesday - 00:00	Active
						Sunday - 03:00	Inactive
						Sunday - 03:30	Active
						Sunday - 04:00	Active
	Lets learn a new language.	1500.00	T7	English	2 hr	Wednesday - 15:00:00	Active

age	Description	Fee	Teacher	Language	Duration	Day and Time	Status
						Wednesday - 00:00	Active
						Sunday - 03:00	Inactive
						Sunday - 03:30	Active
						Sunday - 04:00	Active
	Lets learn a new language.	1500.00	T7	English	2 hr	Wednesday - 15:00:00	Active



6.2.4 Teacher management





Data Saved Successfully!

OK



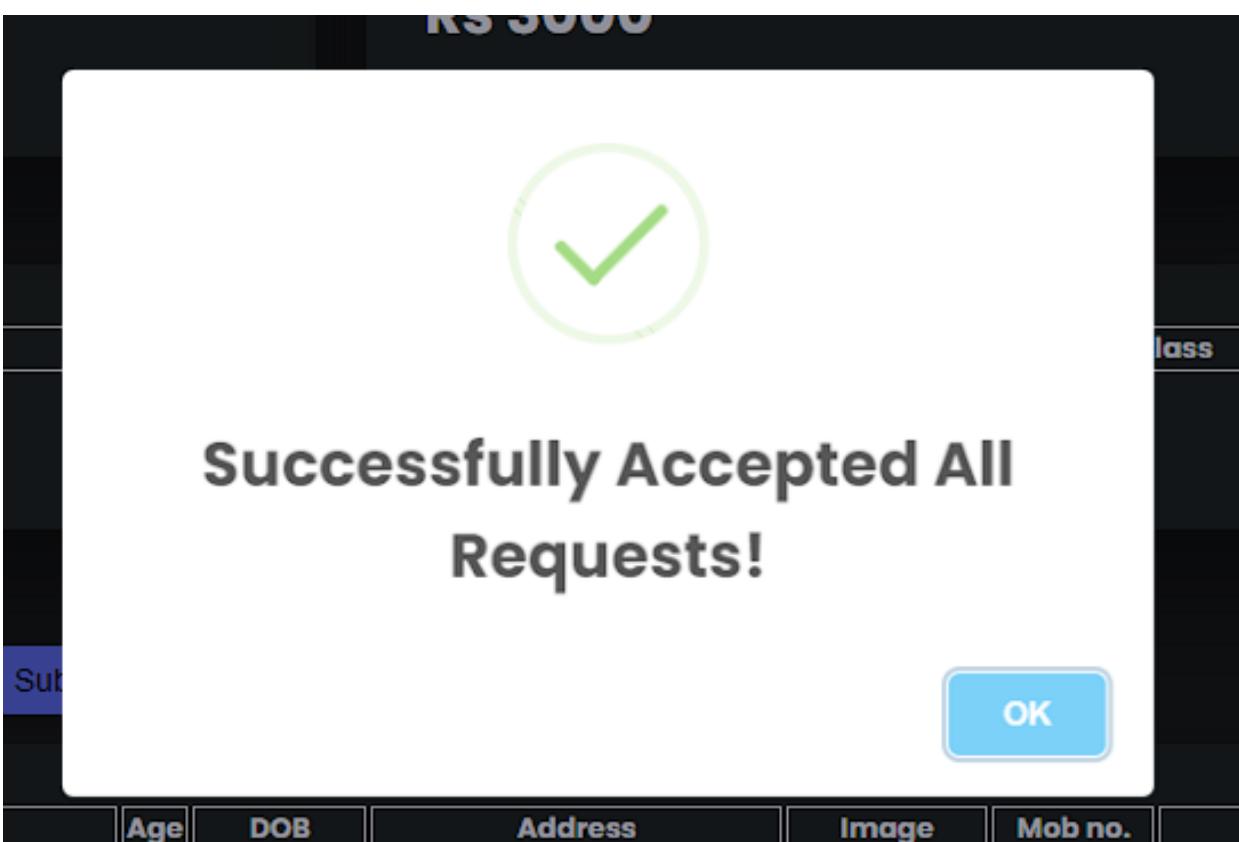
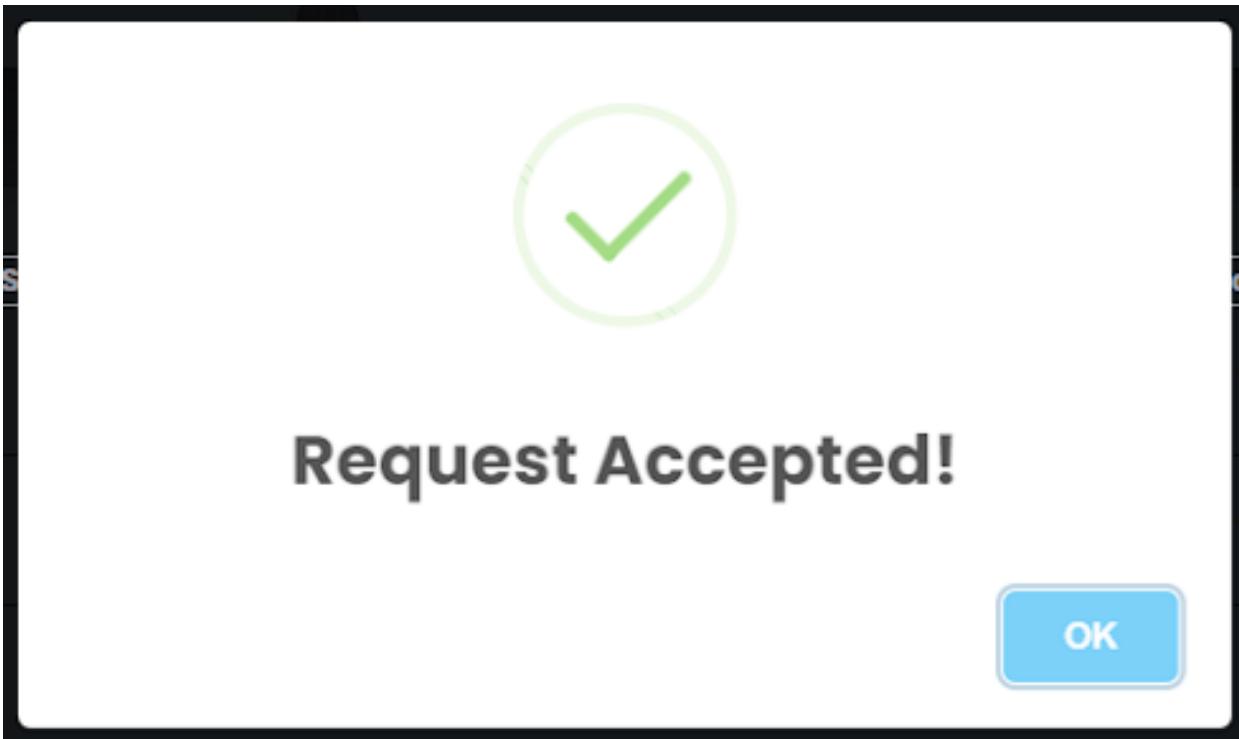
Are you sure?

Once deleted, you will not be able to recover this details!

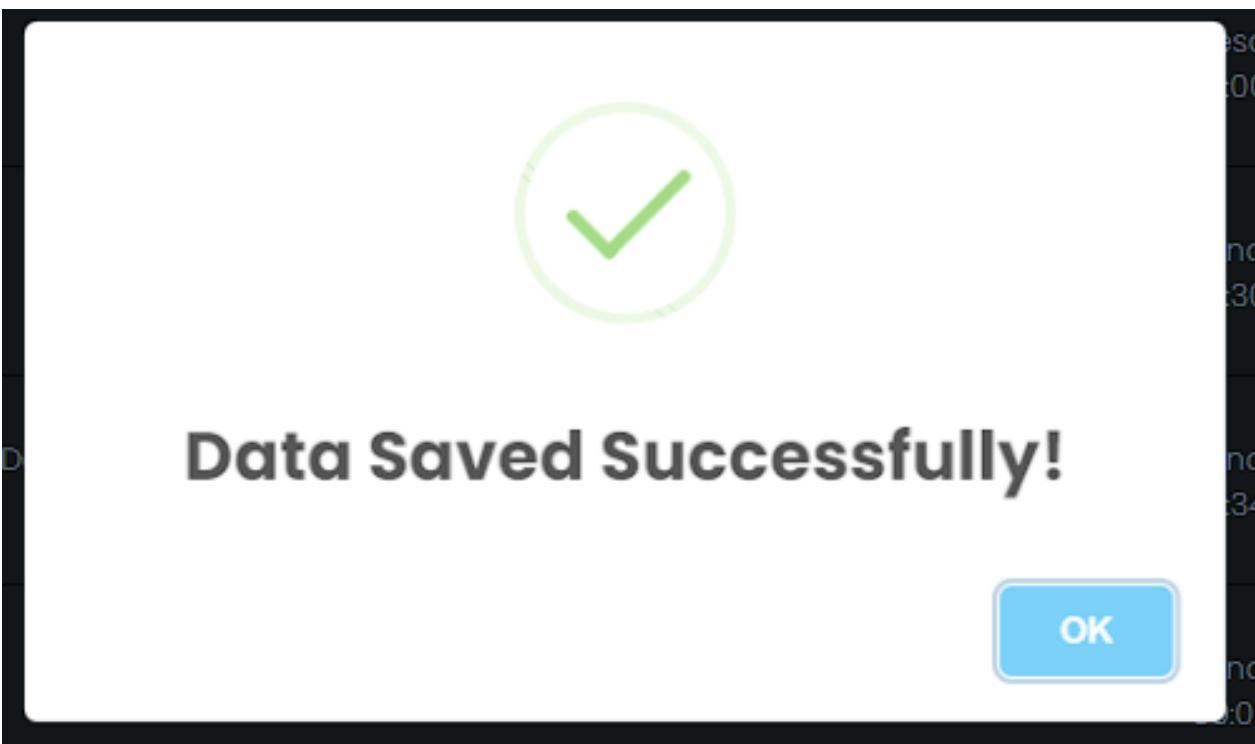
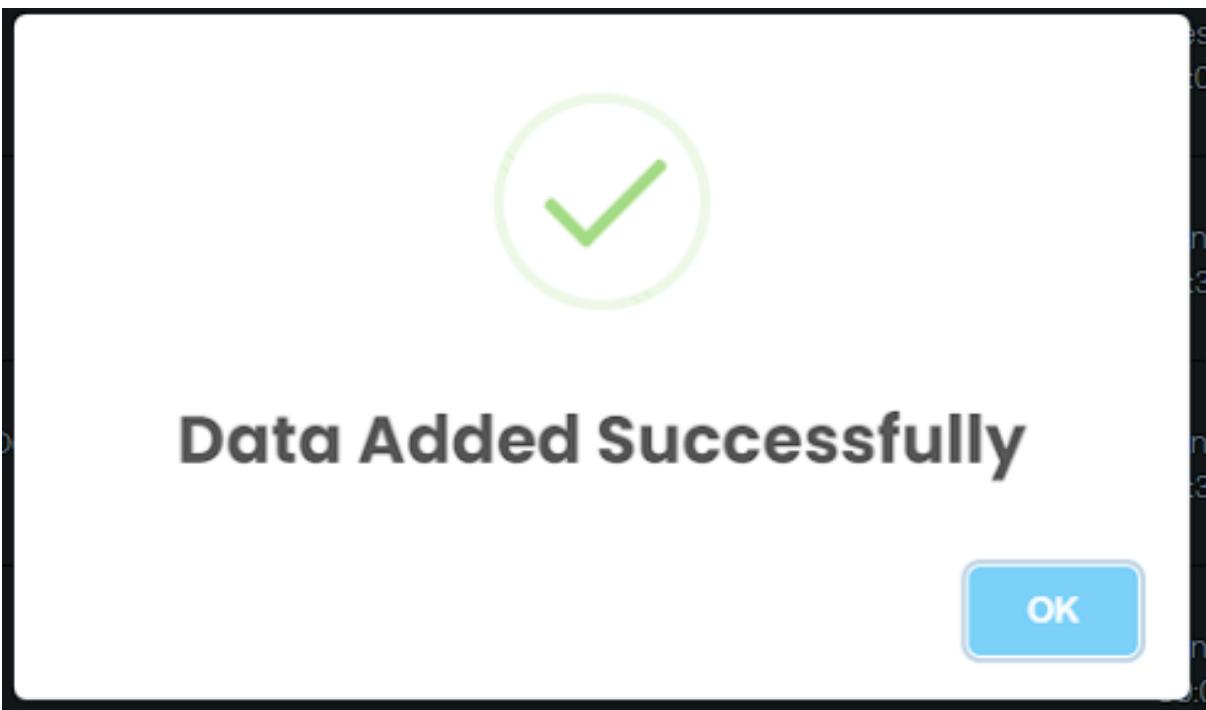
Cancel

OK

6.2.5 Student management



6.2.6 Notification management





Are you sure?

Once deleted, you will not be able to recover this details!

Cancel

OK

6.2.7 Admin management



Data Added Successfully

OK



Data Saved Successfully!

OK



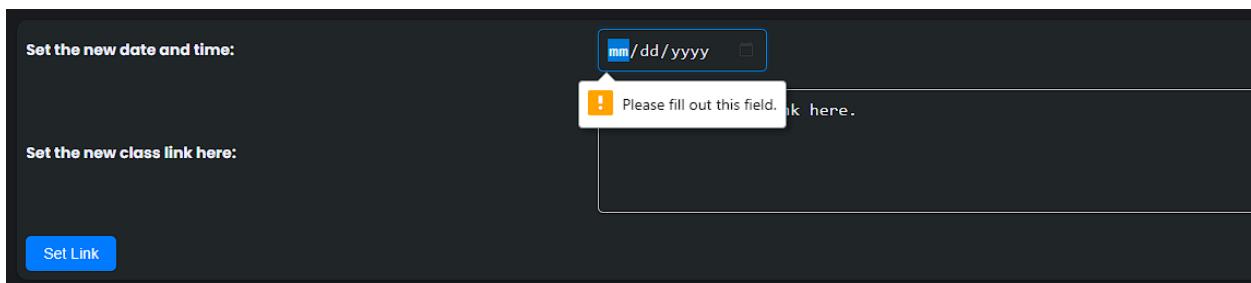
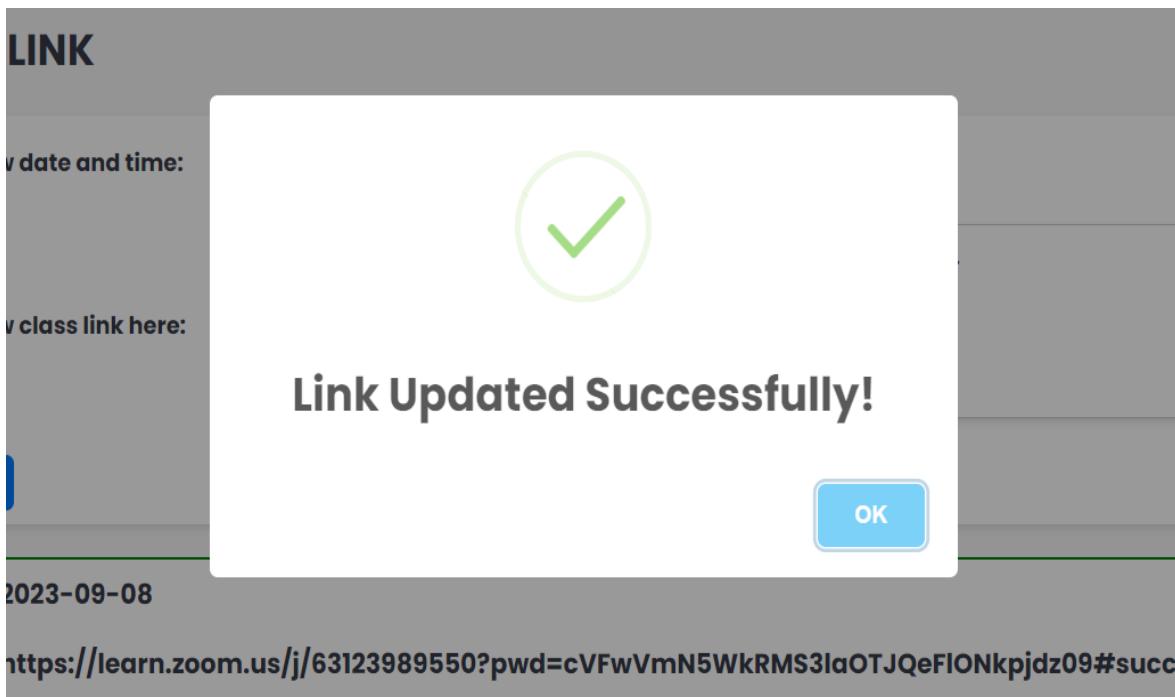
Are you sure?

Once deleted, you will not be able to recover this details!

Cancel

OK

6.2.8 Class Link

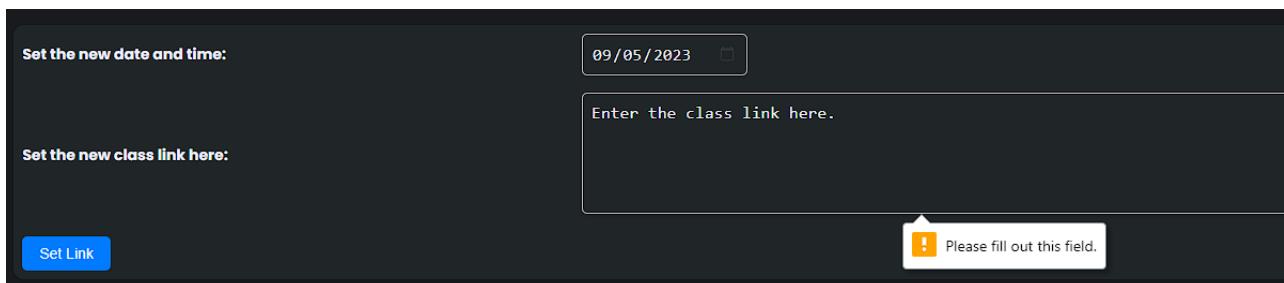


Set the new date and time: mm/dd/yyyy

Set the new class link here:

Please fill out this field.

Set Link

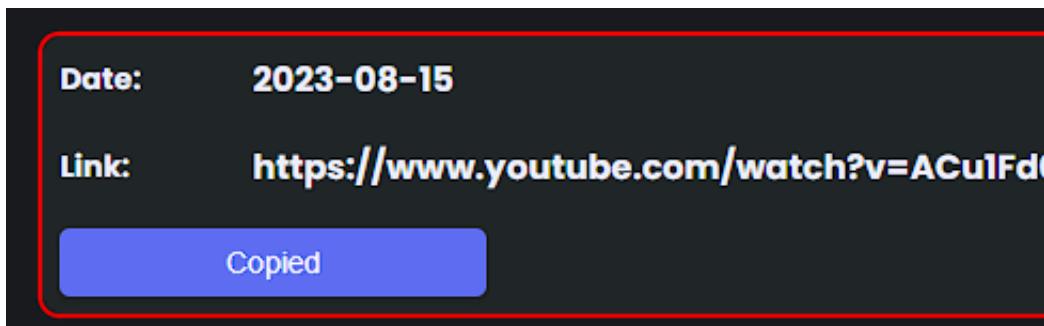


Set the new date and time: 09/05/2023

Set the new class link here: Enter the class link here.

Please fill out this field.

Set Link

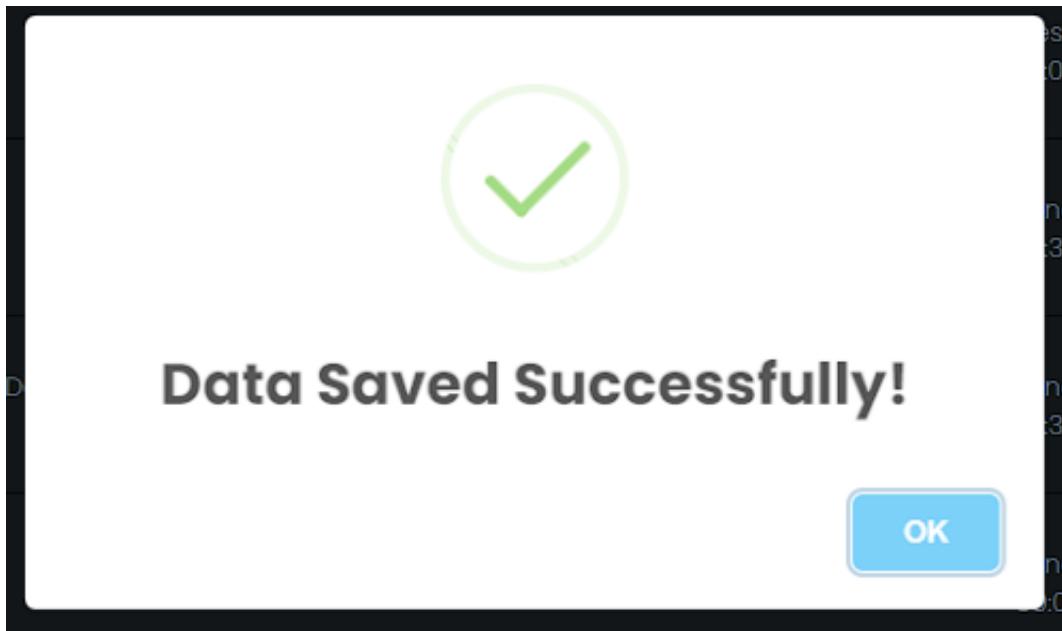
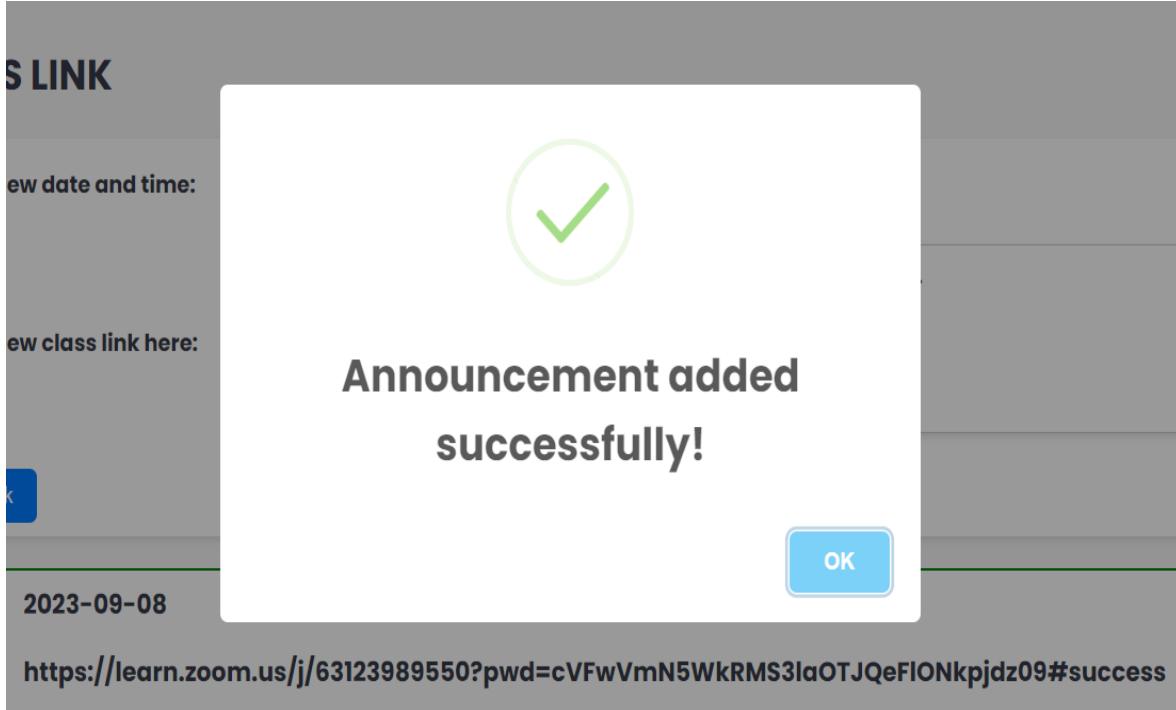


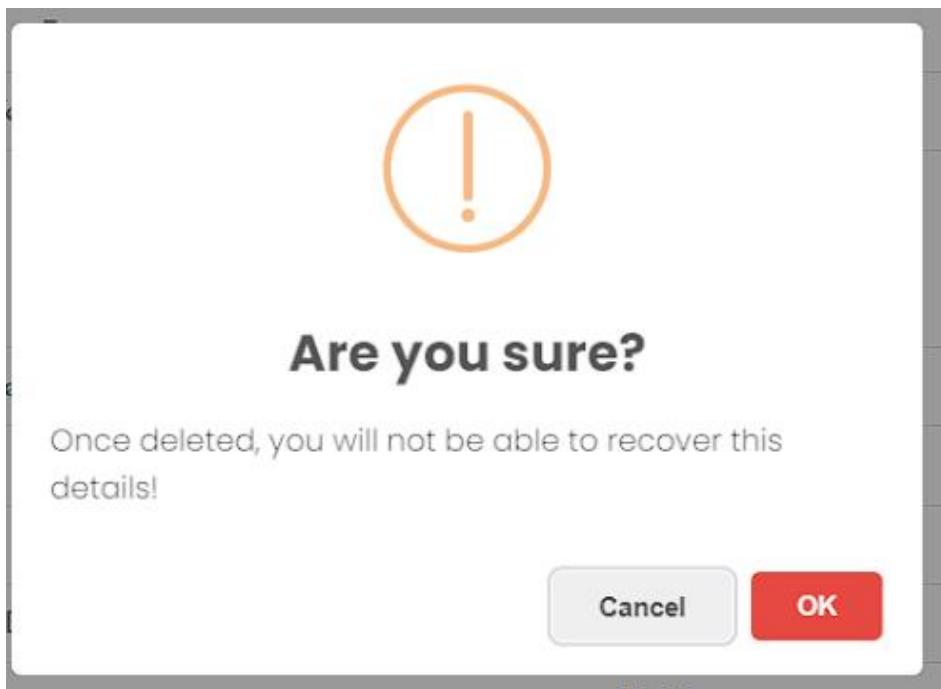
Date: **2023-08-15**

Link: **<https://www.youtube.com/watch?v=ACu1Fd0>**

Copied

6.2.9 Announcement





6.2.10 Exam Management and attempting

ADD EXAM

Exam Title:

Class: ! Please fill out this field.

Exam time in minutes:

Exam Date and Time: !

Exam Status:

Enter exam rules:

File Edit View Insert Format Tools Table

← → Paragraph System Font 12pt ...

Enter exam rules here.

p 4 words tiny

Add Exam

ADD EXAM

Exam Title: Term Test 3

Class: --- Select Your Class ---

Exam time in minutes: Enter ! Please select an item in the list.

Exam Date and Time: mm/dd/yyyy --:-- --

Exam Status: --- Select Exam Status ---

Enter exam rules:

File Edit View Insert Format Tools Table
← → Paragraph System Font 12pt ...
Enter exam rules here.
p 4 words tiny

Add Exam

localhost says
Please select a future date and time.

OK

Exam Title: Term Test 3

Class: Mathematics - English

Exam time in minutes: 2

Exam Date and Time: 08/28/2023 06:23 PM

Exam Status: --- Select Exam Status ---

Enter exam rules:

File Edit View Insert Format Tools Table
← → Paragraph System Font 12pt ...
Enter exam rules here.
p 4 words tiny

Add Exam



Data Saved Successfully!

OK



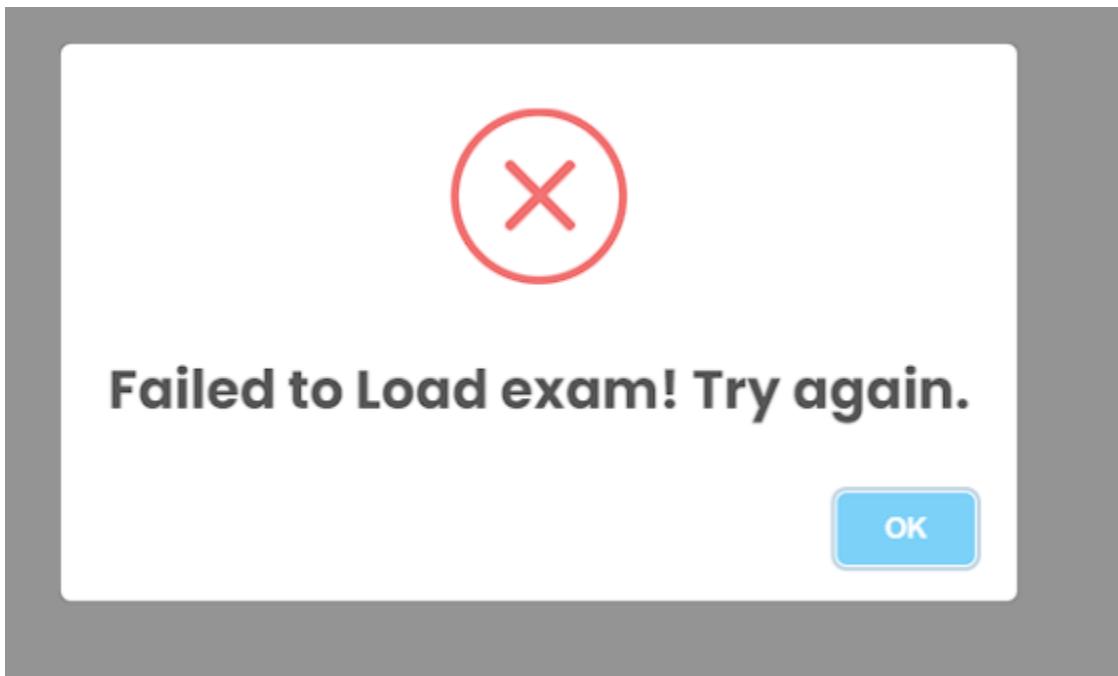
Are you sure?

Once deleted, you will not be able to recover this details!

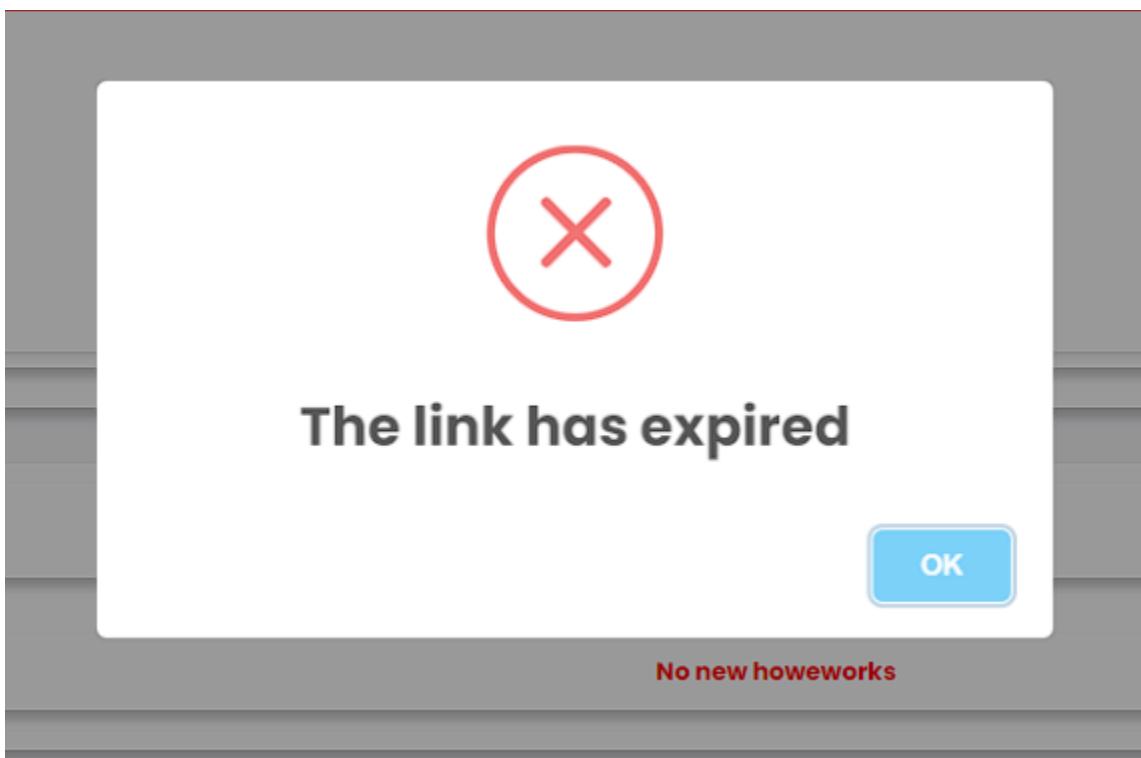
Cancel

OK

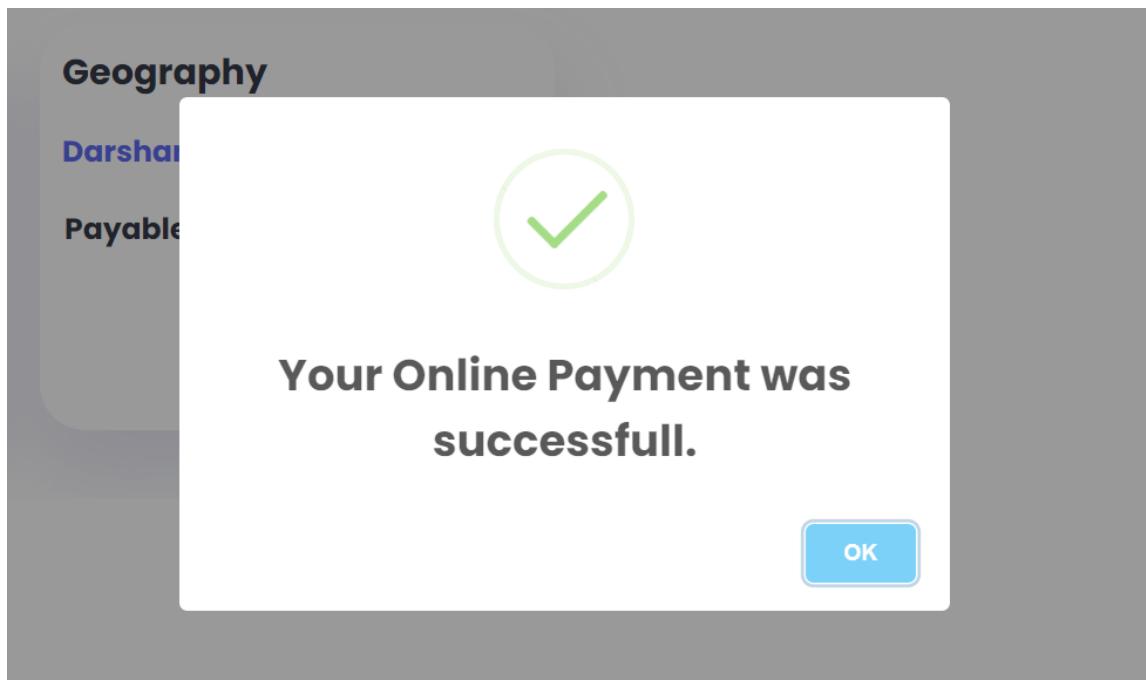
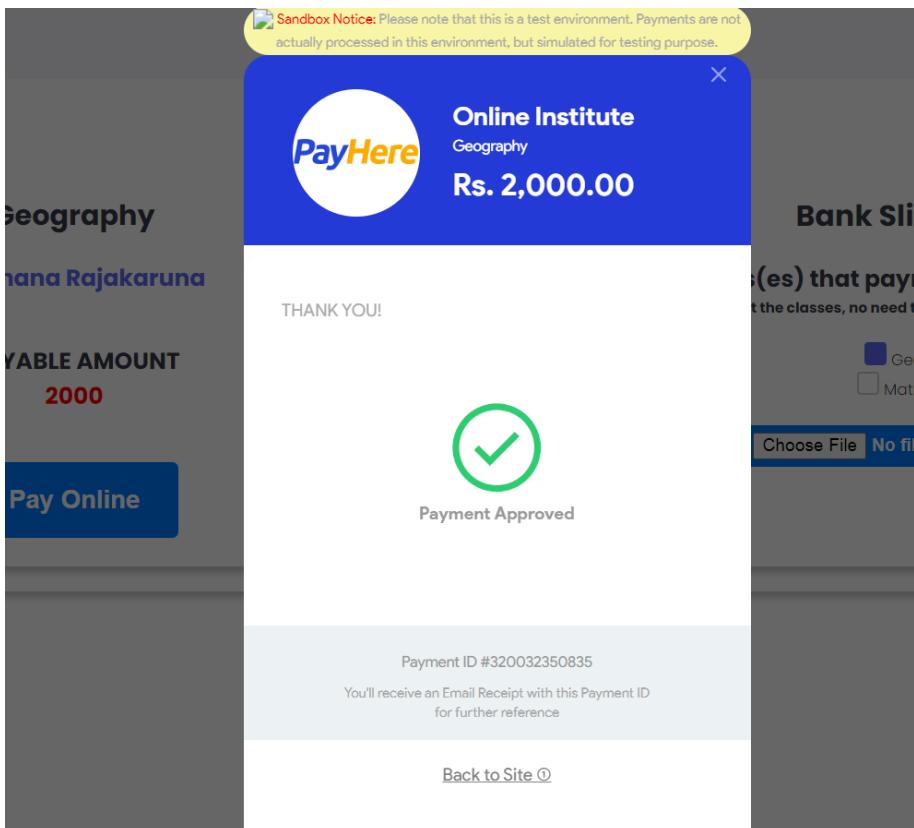
Attempt



6.2.11 Student Class Attempting Link



6.2.12 Payment



7 Conclusion and Future Work

During the system development process, I followed an iterative waterfall methodology as outlined earlier. The system has been successfully implemented within a controlled testing environment. Throughout the development, certain key aspects demanded particular attention and consideration. The operationalization of the system was a critical factor that needed careful planning during its creation.

7.1 Future works

Following feature will be implemented and developed in next versions of the Online Institute

- Add English and Tamil voice assistance.
- Add Tamil supportive student area for Tamil students.
- Advanced data analytics for performance tracking and personalized recommendations.
- Integration with external learning resources and platforms.
- Mobile app development for a more seamless user experience.
- Enhanced security measures and data protection features.
- Continuous user feedback collection and improvement of the Sinhala Voice Assistance.

7.2 Conclusion

In conclusion, the development of the "Online Institute" represents a significant step forward in the realm of online education, catering to the needs of both administrators, teachers, and students. With its comprehensive features and the incorporation of Sinhala Voice Assistance, this system has the potential to revolutionize the way educational institutions manage their operations and interact with their stakeholders.

The "Online Institute" offers an efficient and user-friendly platform for administrators, allowing them to manage classes, assignments, exams, student records, payments, teachers, notifications, and feedback with ease. This centralized system not only simplifies administrative tasks but also enhances communication and transparency within the institution.

For teachers, the system streamlines homework and exam management, empowering them to deliver a more organized and effective educational experience. The class announcements feature ensures that information is disseminated promptly, keeping students informed and engaged.

Students benefit from a dynamic and interactive learning environment, where they can search for classes, make secure online payments, participate in exams, and submit homework assignments seamlessly. The addition of Sinhala Voice Assistance promotes inclusivity and accessibility, making education accessible to a wider audience.

As a university final year project, the "Online Institute" has successfully demonstrated its potential to address the evolving needs of the education sector, particularly in the context of online and remote learning. However, the journey does not end here. There are numerous

avenues for future development, including the integration of additional languages and voice assistance options, advanced data analytics for personalized learning experiences, gamification elements to boost engagement, and the expansion into mobile applications for increased accessibility.

The "Online Institute" is a testament to the power of technology in transforming education and bridging gaps in access and efficiency. With continuous improvement and innovation, it has the potential to contribute significantly to the evolution of online education, making quality learning experiences accessible to all, regardless of their location or language preferences. As we move forward, the pursuit of excellence in education remains at the heart of this project's mission.

8 References

- [1] "Public education versus private tutoring in Sri Lanka: who is contributing more?". Senior Prof.Tikiri Nimal. Oct.18.2019. <http://scholar.sjp.ac.lk/tikiri/presentations/public-education-versus-private-tutoring-sri-lanka-who-contributing-more> (accessed Mar.25.2023)
- [2]"School_Census_Report_2020.pdf".Ministry of Education.2020.<http://www.statistics.gov.lk/Education/StatisticalInformation/SchoolCensus/2020> (accessed Mar.25.2023)
- [3] "English Language Education in Sri Lanka Link with the Learners' Motivational Factors ".Nilushika Prasangani.<https://www.hltmag.co.uk/aug18/english-language-education-in-sri-lanka> (accessed Mar.25.2023)
- [4] [https://www.dailynews.lk/2022/07/26/business/283701/lanka%E2%80%99s-computer-literacy-increases-343#:~:text=Computer%20literacy%20among%20the%20employed,%2D69\)%20has%20digital%20literacy](https://www.dailynews.lk/2022/07/26/business/283701/lanka%E2%80%99s-computer-literacy-increases-343#:~:text=Computer%20literacy%20among%20the%20employed,%2D69)%20has%20digital%20literacy). (accessed Mar.25.2023)
- [5] [How to Implement Speech-to-Text Quickly and Easily \(in JavaScript\) | JavaScript in Plain English](#) (accessed Jun.09.2023)
- [6] [Building a Speech to Text App with JavaScript - DEV Community](#) (accessed Jun.09.2023)

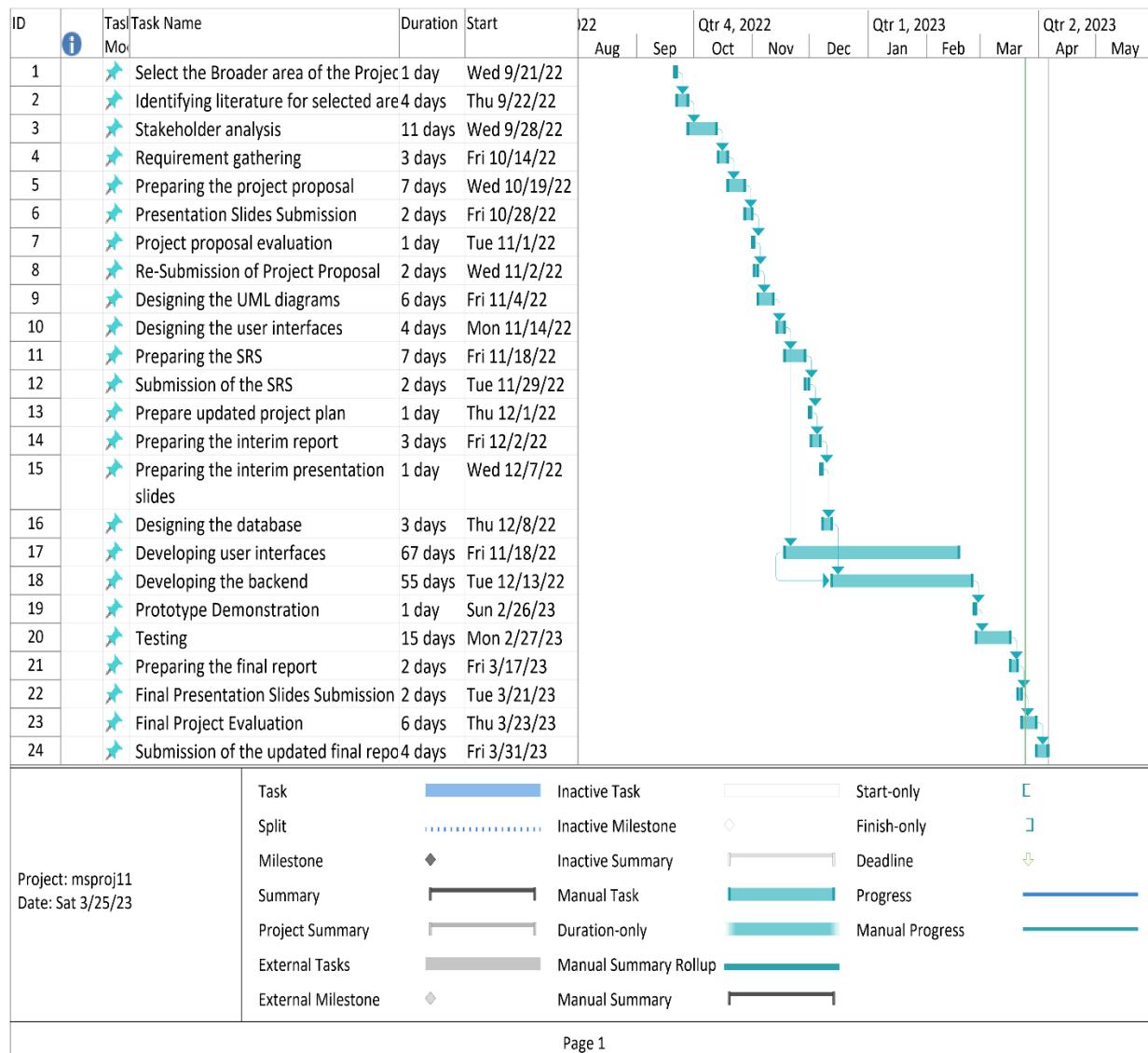
9 Reflection

The "Online Institute" project represents a significant milestone in online education, offering a comprehensive platform for administrators, teachers, and students. With the inclusion of Sinhala Voice Assistance, it addresses accessibility and inclusivity, enhancing the learning experience. Administrators can efficiently manage classes, assignments, exams, payments, and more.

Teachers benefit from streamlined homework and exam management, while students can easily search for classes, make payments, and engage in coursework. The project highlights the potential of technology in education and the importance of user-centric design, emphasizing collaboration and adaptability. As the project concludes, it opens doors for future enhancements, such as additional languages, advanced analytics, gamification, and mobile accessibility, reaffirming its role as a transformative force in online learning.

10 Appendix

10.1 Appendix A – Timeline – Gantt Chart



10.2 Appendix B – Use Case Diagram

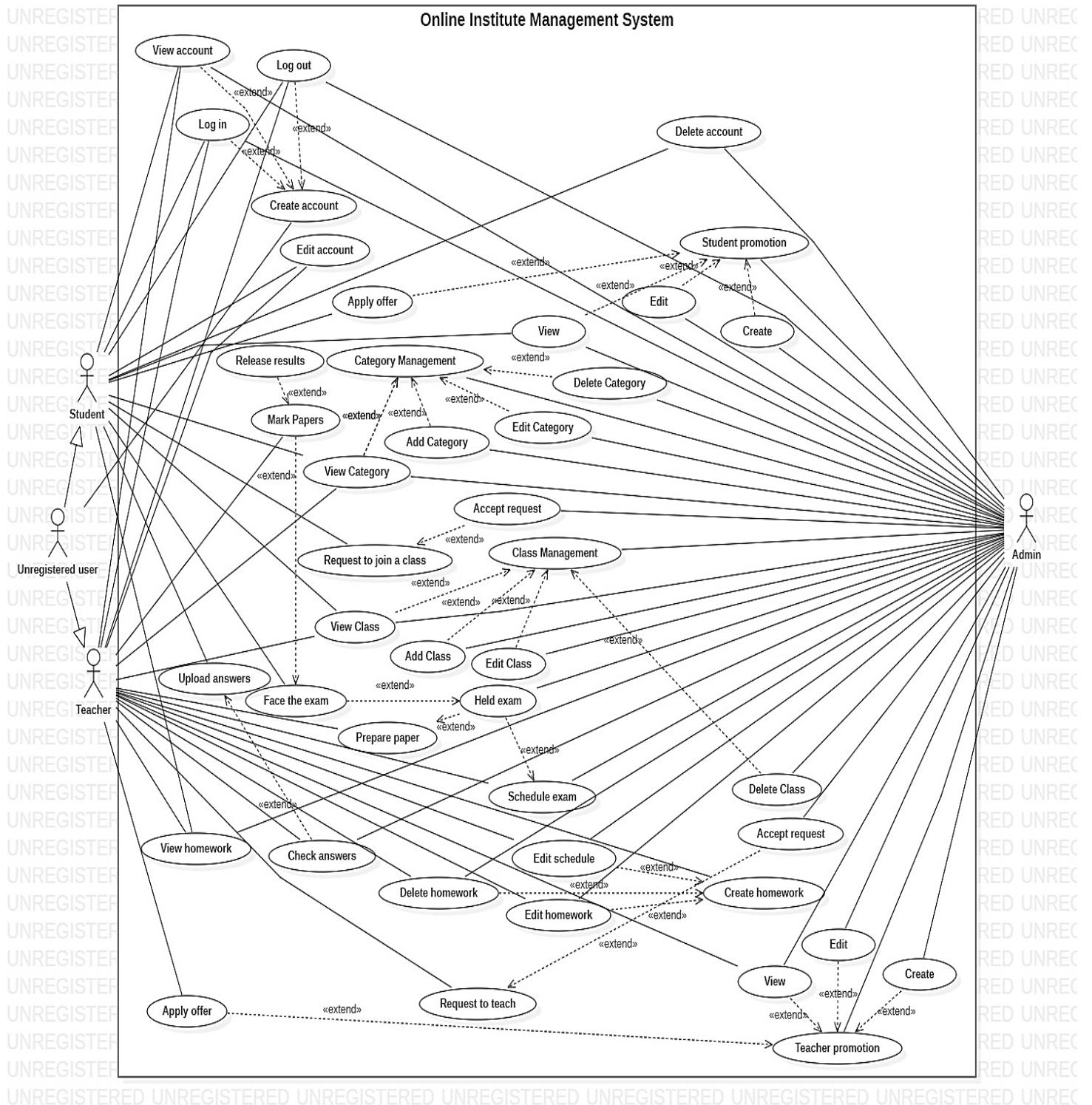


Figure 66: Appendix B - Use Case Diagram

10.3 Appendix C – Activity Diagrams

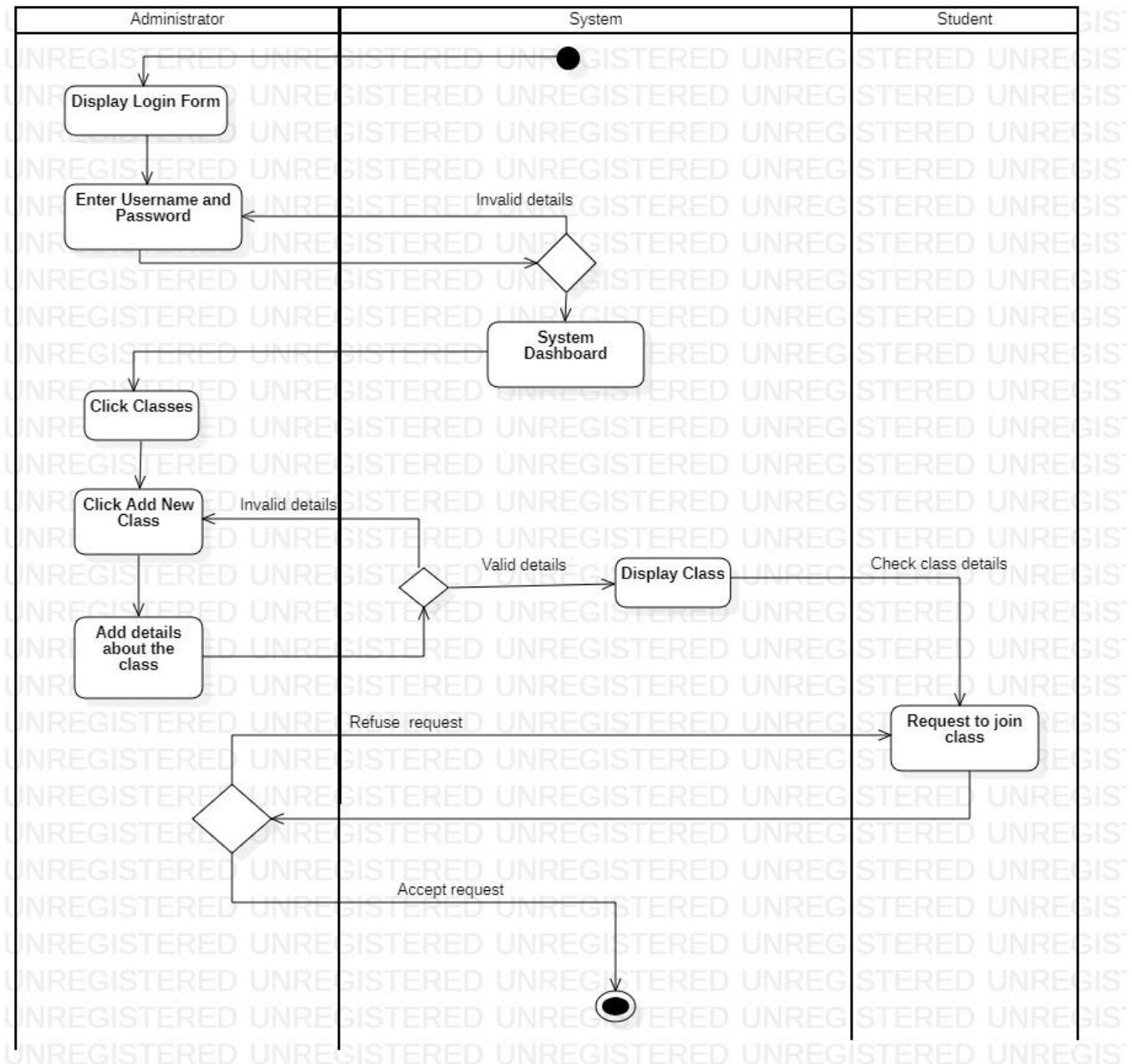


Figure 67: Appendix C - Activity Diagram - 01

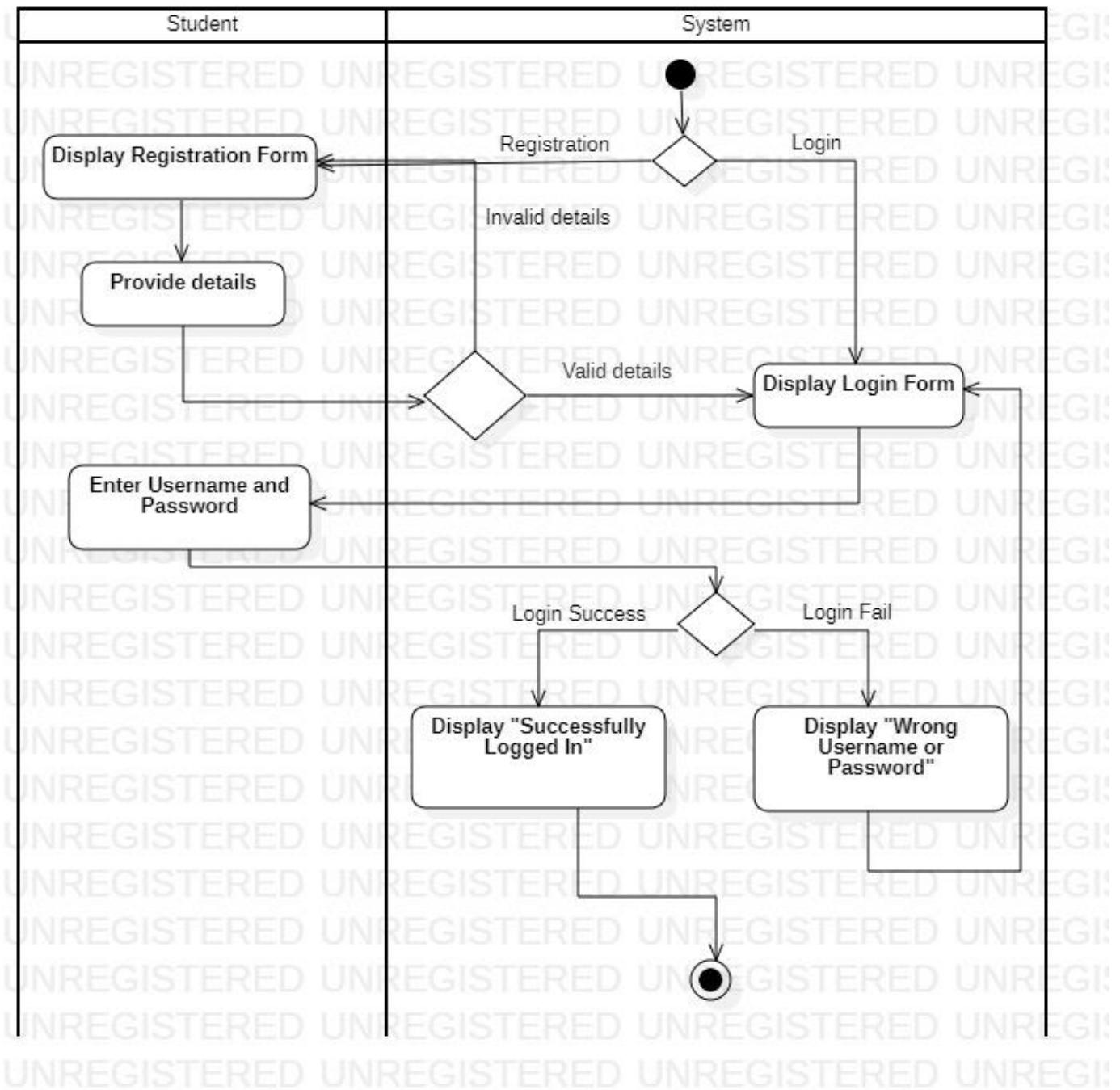


Figure 68: Appendix C - Activity Diagram - 02

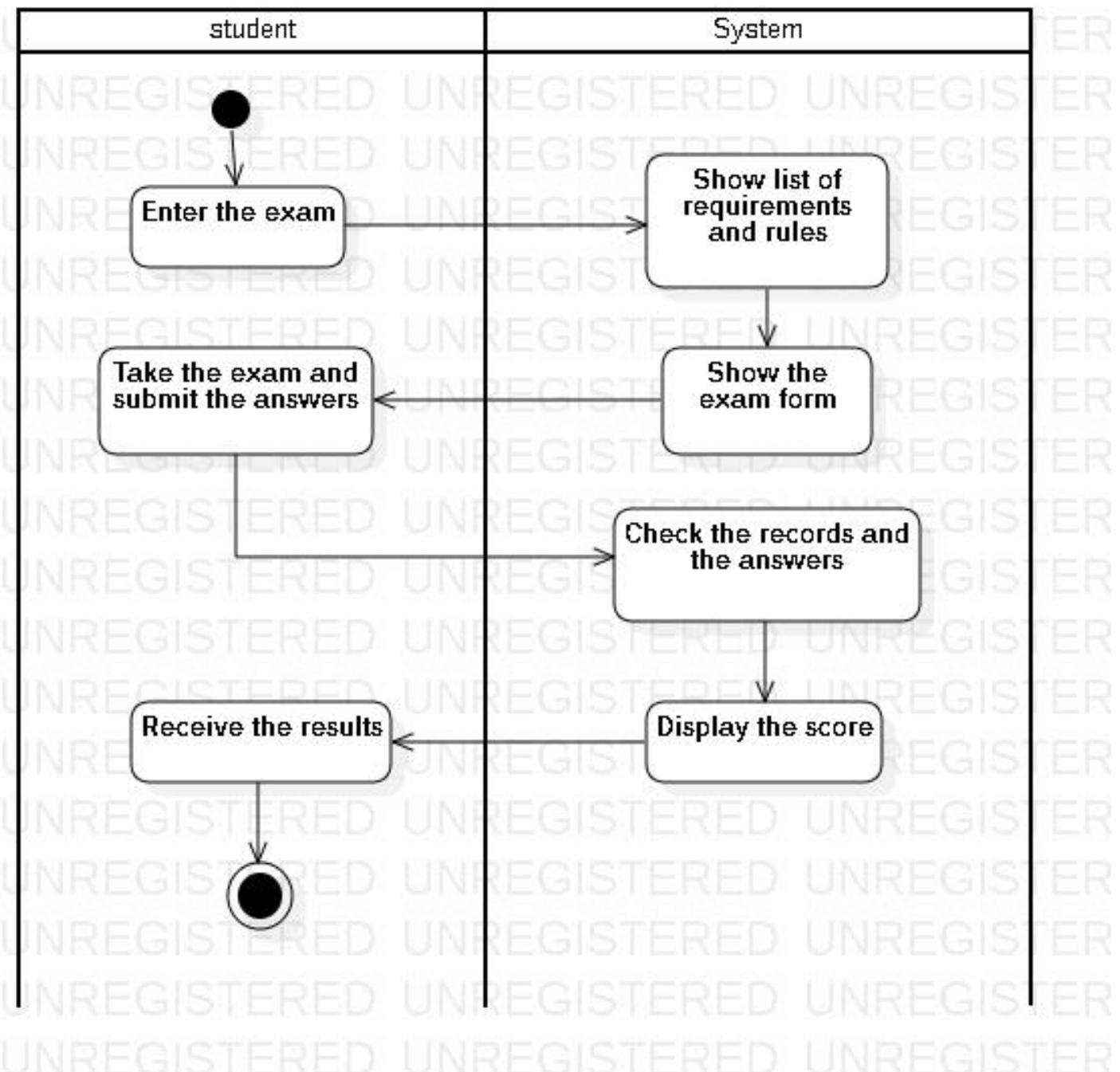


Figure 69: Appendix C - Activity Diagram - 03

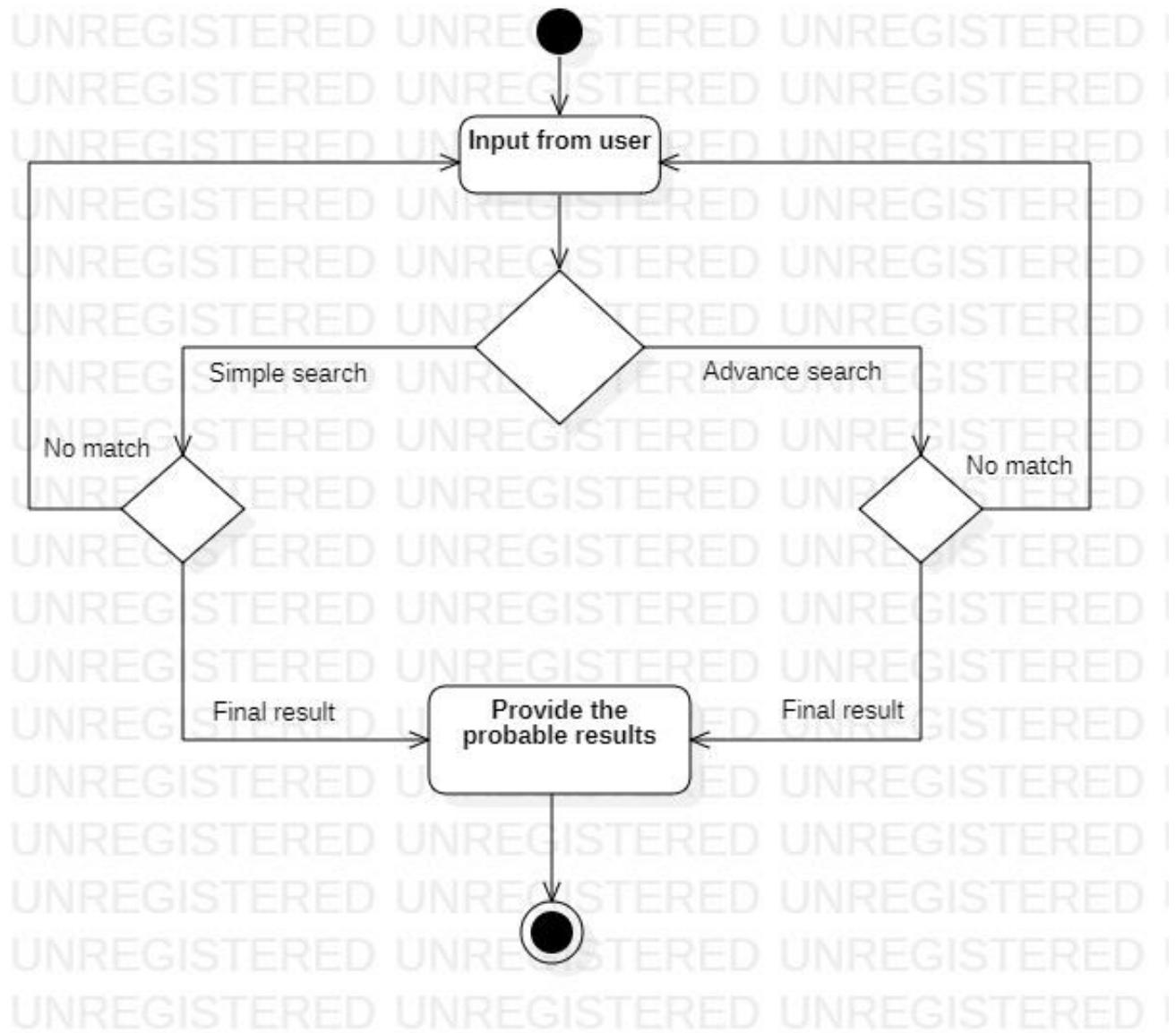


Figure 70: Appendix C - Activity Diagram - 04

10.4 Appendix D – ER Diagrams

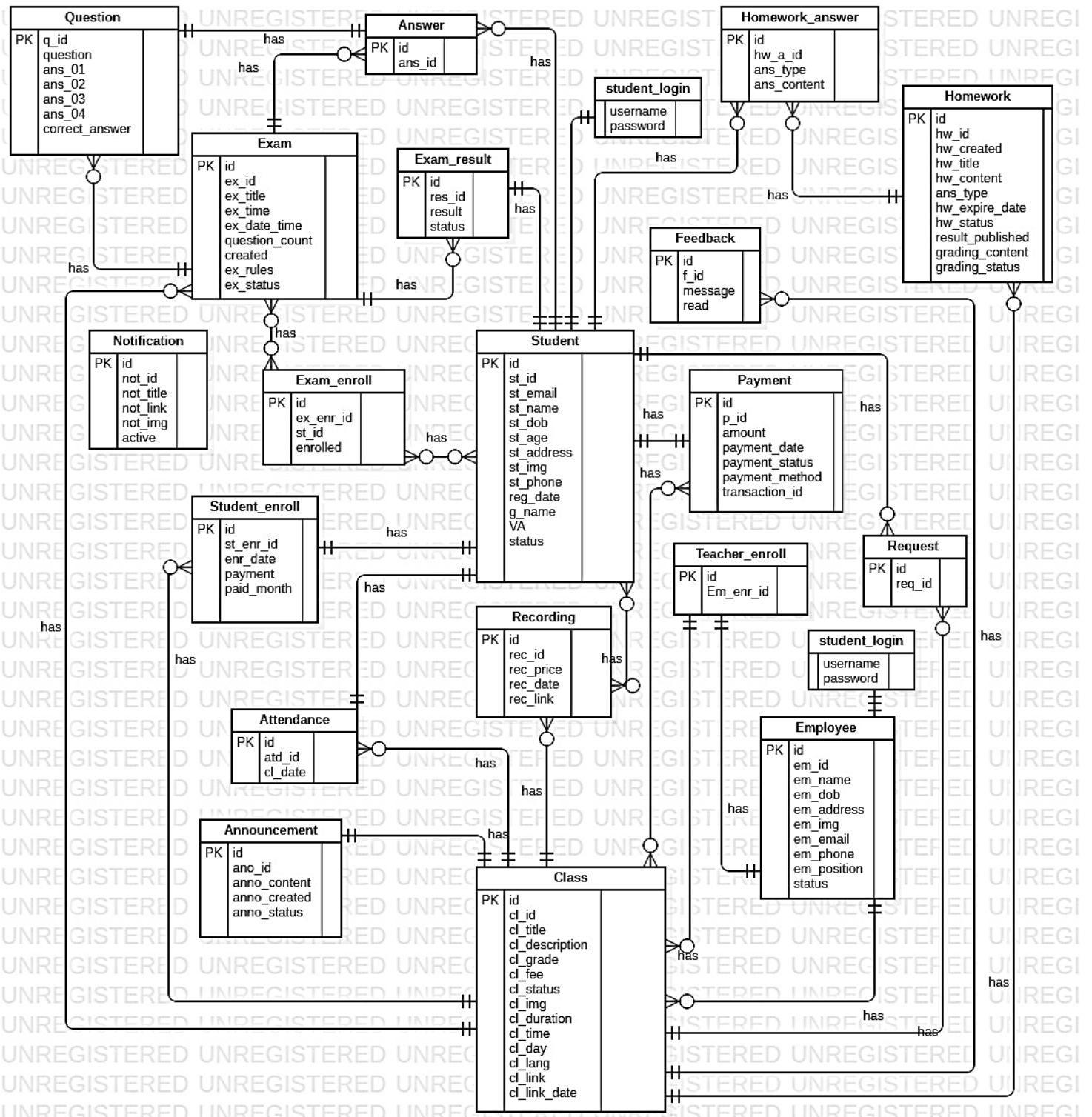


Figure 71: ER Diagram

10.5 Appendix E – User Documentation

USER DOCUMENTATION “ONLINE INSTITUTE”



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Introduction

Welcome to the User Manual for the Online Institute system. This manual has been created to provide comprehensive guidance on how to effectively navigate and utilize the features of the Online Institute platform. Whether you are an administrator, teacher, or student, this document will serve as your go-to resource to make the most out of the system.

About Online Institute:

The Online Institute is a web-based educational platform designed to streamline and enhance the online learning experience. It offers a range of features catering to administrators, teachers, and students, making it a versatile and efficient tool for managing classes, assignments, exams, and more. The inclusion of Sinhala Voice Assistance ensures accessibility and ease of use for a diverse user base.

Document Conventions:

Throughout this user manual, we have established a set of conventions to facilitate your understanding and navigation of the content. When you encounter bold text, it indicates user interface elements such as buttons, menus, or dialog boxes that you should interact with. Step-by-step procedures are presented in numbered lists, guiding you through specific tasks. Screenshots, accompanied by explanatory captions, visually demonstrate key concepts. Important notes and helpful tips are highlighted in boxes for your attention. When applicable, we provide keyboard shortcuts to expedite tasks. To further assist you, a glossary of terms and acronyms used in this manual can be found at the end of the document. These conventions aim to make your experience with the Online Institute platform as seamless and user-friendly as possible.

Intended Audience & Reading Suggestions

For Administrators:

- a. **Administrator Guide:** Administrators should thoroughly read the dedicated Administrator Guide section of this manual. It covers the management of classes, assignments, exams, students, payments, teachers, notifications, and feedback. This is essential for understanding their responsibilities within the system.
- b. **Payment Management:** For a deeper understanding of the payment management system, administrators should review the section specifically focused on payment processing, invoicing, and financial transactions.
- c. **Security and User Access:** To ensure the security of the platform, administrators should pay special attention to the security practices and guidelines mentioned in the manual, including user access control.
- d. **Contact Information:** Familiarize themselves with the "Contact Us" section in case they need to reach out for technical support or inquiries related to the system.

For Teachers:

- a. **Teacher Guide:** Teachers should focus on the Teacher Guide section, which provides detailed instructions on managing homework, assignments, exams, and class announcements.
- b. **Class Announcements:** Pay attention to the part that explains how to effectively communicate with students through class announcements. This will help in keeping students informed and engaged.
- c. **Assignment and Exam Management:** For a seamless experience in creating, assigning, and evaluating homework and exams, teachers should thoroughly read the sections dedicated to these tasks.
- d. **Feedback Management:** Familiarize themselves with the feedback collection and analysis process to enhance their teaching methods based on student input.

For Students:

- a. **Student Guide:** Students should start by reading the Student Guide section, which covers class enrollment, online payments, exam participation, and homework submission.
- b. **Class Search:** Understand how to use the class search feature to find and join classes that align with their academic goals.
- c. **Online Payment:** Pay special attention to the online payment section to ensure a smooth payment process for tuition and other fees.
- d. **Exam and Homework Submission:** Carefully review the steps for taking online exams and submitting homework to avoid any issues during the academic term.
- e. **Notifications:** Learn how to receive and manage notifications to stay updated on class announcements and important information.

Project Scope

The scope of the Online Institute project encompasses the development, deployment, and management of a comprehensive web-based educational platform tailored to the needs of administrators, teachers, and students. The system's primary objectives include class management, homework and assignment tracking, exam scheduling, student enrollment and management, online payment processing, teacher administration, notification dissemination, and feedback collection. The integration of Sinhala Voice Assistance ensures inclusivity and accessibility for users. This project focuses on delivering a functional and user-friendly solution that streamlines online education management while promoting efficient communication and interaction among all user groups. It does not include physical infrastructure or hardware deployment. The project aims to meet the immediate needs of our target users while allowing for future enhancements and scalability to adapt to evolving educational requirements.

User account maintaining

User registration is the most important feature that the system has. It maintains the users of the system. Each user has specific different abilities and skills in the system. Because of this user account maintenance, system continuously works with proper maintenance.

Requirement	Description
UA 01	The system shall allow users to create an account by entering user details such as name, email and password. (If use the Voice Assistance to register, then it will provide an auto generated username and system will take user login)
UA 02	The system shall allow authenticate user to login to the system
UA 03	The system shall allow user to update the account details
UA 04	The system shall allow user to change the password
UA 05	The system shall allow user to logout from the system

Table 23: User Requirements

Class management

The class management feature provides administrators with a comprehensive system to find the best classes to the students and for the teachers to apply for a new class in the system. With this class management, students and teacher both have many advantages. Administrator has the full authority to manage all the classes.

Requirement	Description
CM 01	The system shall allow administrator to manage all classes and their banners on the system home page.
CM 02	The system shall allow students and teachers to check about available classes.
CM 03	The system shall display the detailed information about the selected classes.
CM 04	The system shall allow to search classes in the system to all the users.

Table 24: Class Management

Payment Handling

Online payment ability is one of the most useful features in this system. This feature help to students to pay their class fee through the system by online.

Requirement	Description
PH 01	The system shall provide online payment ability to easily pay through the system.
PH 02	The system shall display the students their payable amounts.
PH 03	The system shall allow students to make their payments to the bank and upload the slip to the system.

Table 25: Payment Handling

Report Generation

Report generation is one of the key features in the system and it helps all the users to do their works easily and accurately. It helps administrator to get a better understanding about the system and users.

Requirement	Description

RG 01	The system shall allow to generate reports about exams, payments, users and classes.
RG 02	The system shall allow to generate customized reports about the exams, payments, users and classes.
RG 03	The system shall allow to administrator to share the reports with the other users like exams and payments.

Table 26: Report Generation

Exam, homework and assignments handling

This feature is very useful for any kind of learning system. Not only the homework and other assignments to the students, teacher also can prepare exams for their students. Students also have a big advantage from this system.

Requirement	Description
EH 01	The system shall allow manage all the exams to the administrator and teacher.
EH 02	The system shall allow manage all the homeworks and assignments.
EH 03	The system shall allow provide the exam only for selected students. (Only relevant class students)

Table 27: Exam, homework and assignment handling

Voice assistance

This feature is introduced to help low computer literacy and low English knowledge have users. They can easily work with the system using this voice assistance service.

Requirement	Description
VA 01	The system shall provide voice assistance for the users to register to the system with guidance.
VA 02	The system shall provide voice assistance service to find the classes.
VA 03	The system shall provide voice assistance in Sinhala language to help low English knowledge users.
VA 04	The system shall provide auto generated username for the voice assistance using users.

Table 28: Voice assistance

Provide search facility

By this facility, users can easily find what they looking for.

Requirement	Description
SE 01	The system shall enable user to enter the search text on the screen.
SE 02	The system shall display all the matching classes based on the search
SE 03	The system shall notify the user when no matching product is found on the search.

Table 29: Search facility

Teaching request handling

This feature is for to find the best teaching staff for the system and contact them with quickly as possible. It helps to keep the system speed and good.

Requirement	Description
TR 01	The system shall allow teachers to apply for teaching a class by uploading a cv to the system.
TR 02	The system shall allow administrator to check and send reply to the teaching applications.

Table 30: Teacher Request handling

Admin management

Most important feature of the system is the admin management. This admin management panel has the control of most of the things in the system.

Requirement	Description
AD 01	The system shall allow admin to manage the dashboard of the system
AD 02	The system shall allow admin to manage teachers of the system
AD 03	The system shall allow admin to manage students of the system
AD 04	The system shall allow admin to manage payments of the system

AD 06	The system shall allow admin to manage exams of the system
AD 07	The system shall allow admin to handle all the reports of the system
AD 08	The system shall allow admin to manage notifications and update of the system
AD 09	The system shall allow admin to make conversation with users and manage feedbacks of the system
AD 10	The system shall allow admin to handle all the recording of the classes
AD 11	The system shall allow one admin to update admin's own details

Table 31: Admin Management

Overall Description

1. Project Purpose:

- The Online Institute project serves the critical purpose of modernizing and enhancing the accessibility of education. It aims to provide a flexible and feature-rich platform that adapts to the needs of educational institutions, allowing seamless online learning.
- With a global shift toward online education, the project aligns with the evolving landscape of education, especially in the wake of the COVID-19 pandemic. It addresses the growing demand for remote learning solutions.

2. Project Goals:

- The project's primary goals include improving the accessibility of education by integrating Sinhala Voice Assistance, which caters to users who prefer voice commands and non-textual interaction.
- It also focuses on streamlining administrative processes, reducing manual workload, and promoting efficient communication and collaboration among administrators, teachers, and students.
- Improved learning experiences are another key objective, achieved through intuitive interfaces, interactive assignments, and effective feedback mechanisms.

3. Target Audience:

- The platform accommodates a diverse set of users, including administrators responsible for managing the system, teachers who deliver content and assessments, and students engaged in learning.
- Each user group has distinct needs and expectations, and the platform has been carefully designed to cater to these diverse requirements.

4. Scope:

- The project scope encompasses the development, deployment, and maintenance of a web-based educational platform. This platform includes features such as class management, homework tracking, exam scheduling, payment processing, and more.
- Importantly, the project scope allows for future scalability and adaptability, ensuring that the platform can evolve alongside the ever-changing educational landscape.

Product Perspective:

1. Integration:

- The system's integration with third-party services is a strategic choice aimed at enriching the user experience. For instance, payment processing integration ensures secure and efficient transactions, while communication tools enable real-time updates and notifications.
- Integration with data analytics tools will empower educational institutions to make data-driven decisions and enhance learning outcomes.

2. Data Management:

- The platform's data management capabilities are built to adhere to the highest standards of security and privacy. Data is encrypted and stored in compliance with industry best practices.

- Robust data retrieval mechanisms ensure that administrators, teachers, and students can access essential information efficiently.

3. Scalability:

- Scalability is at the core of the project's design. The platform is architected to accommodate a growing number of users, courses, and resources.
- Future enhancements, such as additional features or integration with emerging technologies, can be seamlessly incorporated, ensuring long-term viability.

Product Features:

1. User Roles:

- Administrators have privileges for system-wide management, while teachers and students have access tailored to their roles, ensuring a secure and efficient user experience.

2. Class Management:

- Administrators can create, edit, and manage class details, including schedules, course descriptions, and student enrollments. This feature provides a centralized hub for academic planning and organization.

3. Homework and Assignment Tracking:

- Teachers can create, assign, and evaluate homework and assignments using interactive tools. Students can submit assignments online, and the system keeps track of deadlines and submissions, providing transparency and accountability.

4. Exam Scheduling:

- Teachers can schedule exams, set parameters such as time limits and question types, and grade them within the platform. Students can access exams online, simplifying the examination process for both parties.

5. Payment Processing:

- The platform supports various payment methods, allowing students and their families to make secure online payments for tuition fees, course materials, and other expenses.

6. Teacher Administration:

- Administrators have the capability to manage teacher profiles, assign courses, and monitor teacher performance, ensuring quality education delivery.

7. Notifications:

- Automated notifications play a vital role in keeping users informed and engaged. Teachers and administrators can send updates, reminders, and announcements to students, facilitating communication.

8. Feedback Collection:

- The platform offers a comprehensive feedback system where both teachers and students can provide input. This data contributes to continuous improvement, enhancing the overall learning experience.

9. Sinhala Voice Assistance:

- Sinhala Voice Assistance brings a unique and inclusive dimension to the platform, allowing users to interact with the system using voice commands and ensuring accessibility for a broader audience.

10. Integration with Third-Party Services:

- Integration with third-party services such as payment gateways, communication platforms, and data analytics tools enhances the platform's functionality and user experience.

11. Security Measures:

- The platform employs advanced security measures, including data encryption, access controls, and regular security audits, to protect user data and maintain system integrity.

12. Scalability:

- The platform's architecture is designed to scale horizontally and vertically, allowing for increased user volumes and the incorporation of additional features and technologies as educational needs evolve.

These detailed descriptions and facts provide a comprehensive overview of the Online Institute project, its context, and the core features that will benefit administrators, teachers, and students in the online education ecosystem.

Operating Environment

The Online Institute system operates within a web-based environment, making it accessible to users across various platforms and devices. Users can access the platform through commonly used web browsers such as Chrome, Firefox, Safari, and Edge, ensuring compatibility with both desktop and mobile devices. The system is designed to be platform-agnostic, providing a consistent user experience regardless of the operating system or device used. It utilizes cloud-based hosting services to ensure high availability and scalability, allowing for optimal performance even during peak usage periods. To guarantee data security and privacy, the system employs robust encryption protocols and complies with industry standards and regulations. Additionally, Sinhala Voice Assistance is integrated into the system, enhancing accessibility for users who prefer voice-based interaction. Overall, the Online Institute's operating environment is tailored to provide a seamless and inclusive online learning experience while prioritizing security and accessibility.

Assumptions and Dependencies

Assumptions:

1. **Internet Accessibility:** The successful operation of the Online Institute assumes that users have reliable access to the internet. This includes both administrators and students who will access the platform from various locations.
2. **User Device Compatibility:** It is assumed that users have access to devices (e.g., computers, smartphones, tablets) that can run modern web browsers to access the platform effectively.
3. **Data Privacy Compliance:** The project assumes compliance with relevant data privacy and protection regulations, ensuring that user data is handled securely and in accordance with legal requirements.
4. **Continuous User Engagement:** The success of the platform relies on active user engagement, including teachers effectively managing classes and students participating in coursework.
5. **Sufficient Training:** Administrators, teachers, and students are assumed to receive adequate training and orientation to effectively use the platform and its features.

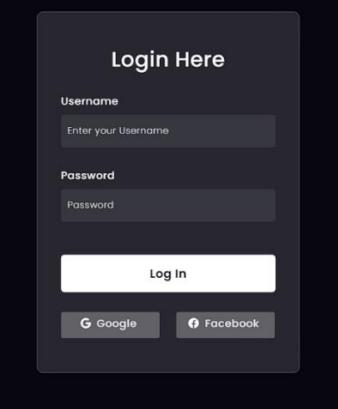
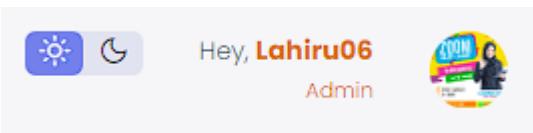
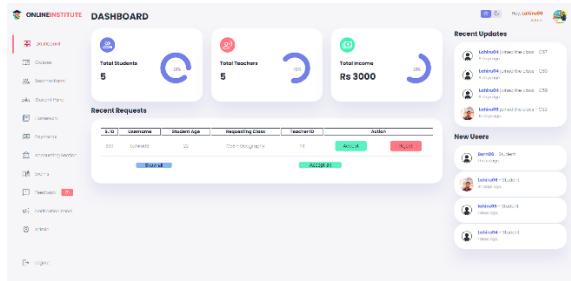
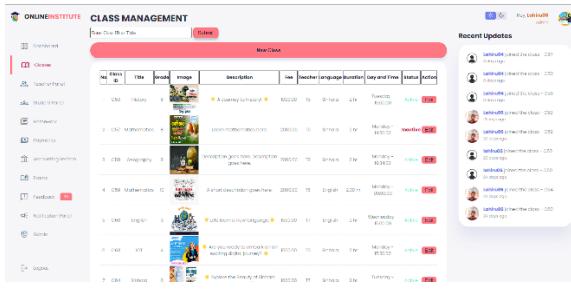
Dependencies:

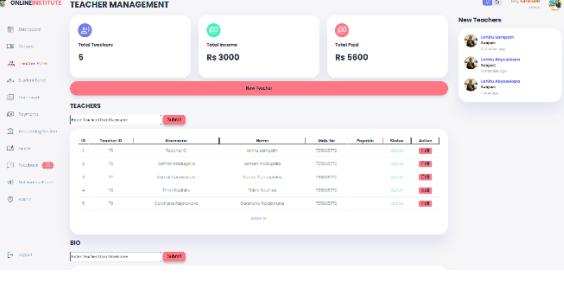
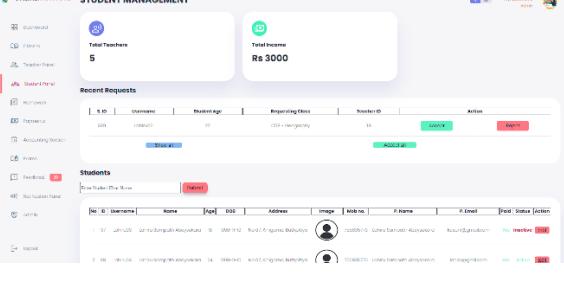
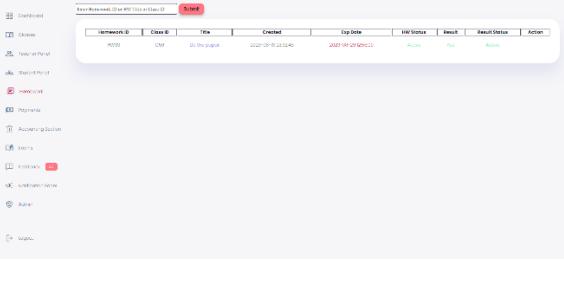
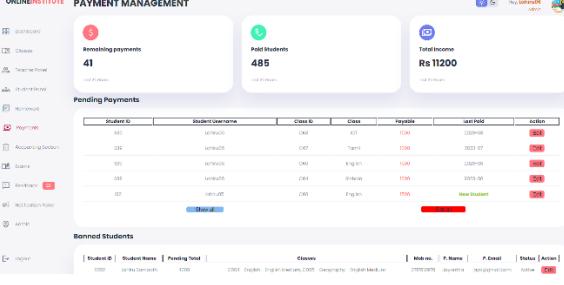
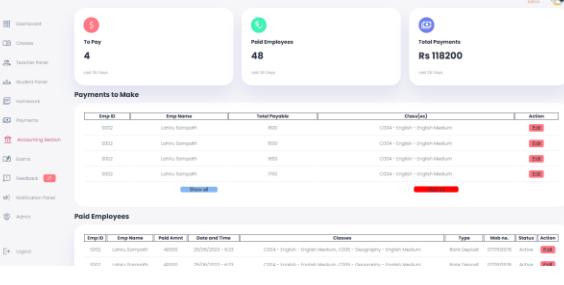
1. **Third-Party Integrations:** The platform depends on successful integrations with third-party services for payment processing, communication tools, and data analytics. Any disruptions in these integrations could impact system functionality.
2. **Cloud Hosting Service:** The system relies on a dependable cloud hosting service to ensure high availability and scalability. Any issues with the hosting service could affect system performance and accessibility.
3. **Sinhala Voice Assistance:** The integration and functionality of Sinhala Voice Assistance are dependent on the capabilities and performance of the voice recognition and processing technology being used.

4. **Internet Service Providers (ISPs):** The reliability and performance of the Online Institute are influenced by the stability of internet connections provided by ISPs, which are external dependencies.
5. **Regulatory Changes:** The platform is dependent on adherence to existing data privacy regulations. Changes in these regulations may necessitate updates or modifications to ensure continued compliance.
6. **User Engagement:** The success of the platform relies on active user participation and engagement. Low user engagement could affect the platform's effectiveness in delivering educational content and services.
7. **Technical Support:** Effective technical support for users, including administrators, teachers, and students, is crucial. The availability and responsiveness of technical support teams are critical dependencies to address user issues and inquiries promptly.

Please review this documentation thoroughly to gain a comprehensive understanding of how to utilize the "Online Institute" system effectively.

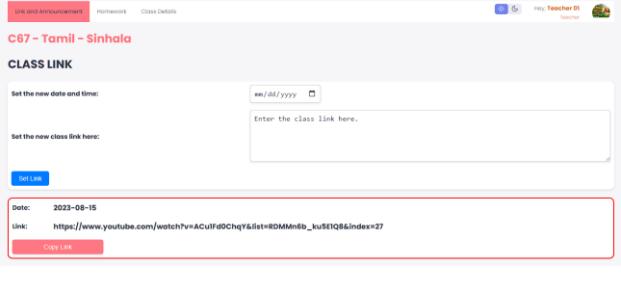
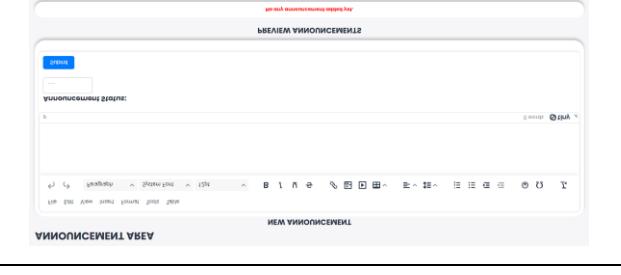
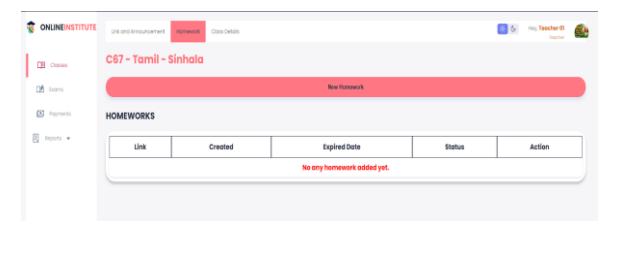
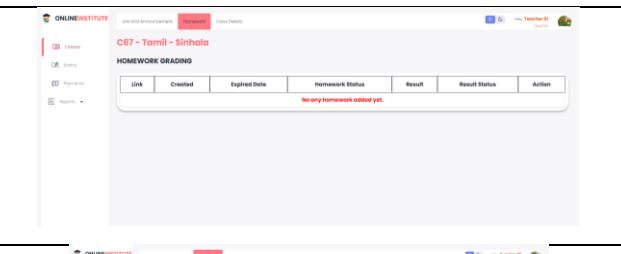
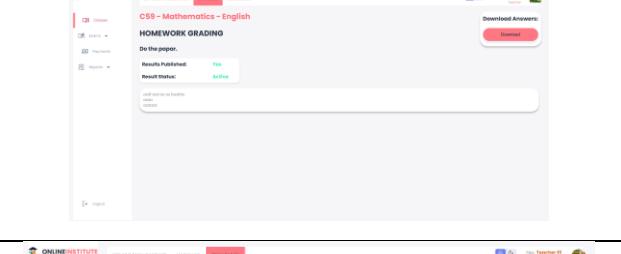
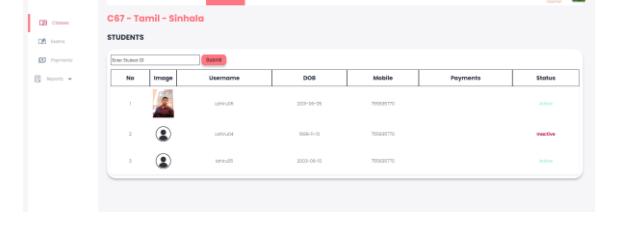
Admin

	<p>This is the first and it's the login page of the Admin panel and Teacher panel. According to the user's position, it will navigate user to the Admin section or Teacher section.</p>
	<p>In here, these are the profile and theme changing icons. By pressing username or image, can edit the user's details. And also the theme icons can change the systems theme into dark or light modes.</p>
	<p>This is the dashboard of the admin panel. It shows many details that helps to control the system. In here, admin can approve or reject student requests to join the classes. It also shows newly registered students and students who newly joined to the classes.</p>
	<p>This is the class section. Adding, editing and deleting classes can be done in here and it shows students who newly joined to the classes.</p>

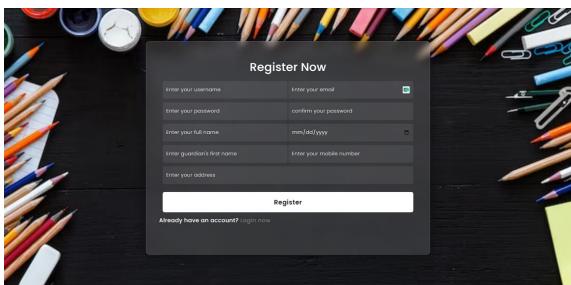
	<p>In Teacher management section, admin can add, edit or remover teachers from the system. It also shows new teacher request to join to the systems.</p>
	<p>Student management area shows the all the students who registered to the system and also it shows class joining requests from students. In here also you can search and find students from their IDs or Username.</p>
	<p>In here, it shows the homeworks that teachers published to the students. Admin can change activeness of the homework.</p>
	<p>This is the payment section and in here, admin can control payments and ban students and unbanned them.</p>
	<p>This is the accounting section. It shows payable amounts to the teachers and income details of the system. Admin can control teachers' payments in here.</p>

	<p>Exam management area shows all the exams is to be held. Admin can look and change the activeness of the exams.</p>
	<p>This is the notification area of the system. In here, admin can add, edit or delete the notifications.</p>
	<p>In Admin management area, admin can add, edit few features and delete admins. This is the admin registration process of the system.</p>

Teacher	
	<p>In here, it shows the classes the teacher conducting.</p>

 <p>CLASS LINK</p> <p>Set the new date and time: <input type="text" value="mm/dd/yyyy"/></p> <p>Enter the class link here:</p> <p>Date: 2023-08-15 Link: https://www.youtube.com/watch?v=ACuIfdOChqY&t=80MMnIb_ku5TQ8&index=27</p> <p>Copy Link</p>	<p>This section allows teacher to update link the of the online class with a date. If the link date is passed, then the border goes red and if the date and time is in the future, it remains green.</p>																													
 <p>ANNOUNCEMENT</p> <p>Announcement content area with rich text editor tools.</p>	<p>This is the announcement section. Teacher can easily inform students using this announcement panel. And also, teacher can control the create, edit and delete all functions in here.</p>																													
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 <p>STUDENTS</p> <table border="1"> <thead> <tr> <th>User Student ID</th> <th>No</th> <th>Image</th> <th>Username</th> <th>DOB</th> <th>Mobile</th> <th>Payments</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>UPT001</td> <td>1</td> <td></td> <td>UPTELE</td> <td>2023-09-05</td> <td>7000000000</td> <td>Active</td> </tr> <tr> <td>UPT002</td> <td>2</td> <td></td> <td>UPTELE</td> <td>2023-09-10</td> <td>7000000000</td> <td>Inactive</td> </tr> <tr> <td>UPT003</td> <td>3</td> <td></td> <td>UPTELE</td> <td>2023-09-10</td> <td>7000000000</td> <td>Active</td> </tr> </tbody> </table>	User Student ID	No	Image	Username	DOB	Mobile	Payments	Status	UPT001	1		UPTELE	2023-09-05	7000000000	Active	UPT002	2		UPTELE	2023-09-10	7000000000	Inactive	UPT003	3		UPTELE	2023-09-10	7000000000	Active	<p>Class details can be seen in here and if the teacher wants to search a student, he or she can easily search that by using student's username or student id.</p>
User Student ID	No	Image	Username	DOB	Mobile	Payments	Status																							
UPT001	1		UPTELE	2023-09-05	7000000000	Active																								
UPT002	2		UPTELE	2023-09-10	7000000000	Inactive																								
UPT003	3		UPTELE	2023-09-10	7000000000	Active																								

Student



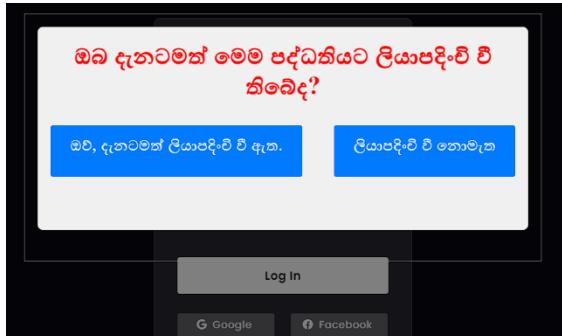
This is the registration page of the system. Students have to register to join the classes through this window. Student can give relevant details and press the register button. Data should be correct and if not you will get a error message.

A screenshot of a login form titled "Login Here". It has fields for "Username" and "Password", both with placeholder text "Enter your Username" and "Password". Below these are "Log In" and social media login buttons for "G Google" and "Facebook". At the bottom is a link "Need to register? Register now". The background is dark.

This is the login page of the Students area. By entering the username and password, student can easily log into the system.



This is a popup message that ask you to turn on the Voice Assistance feature.

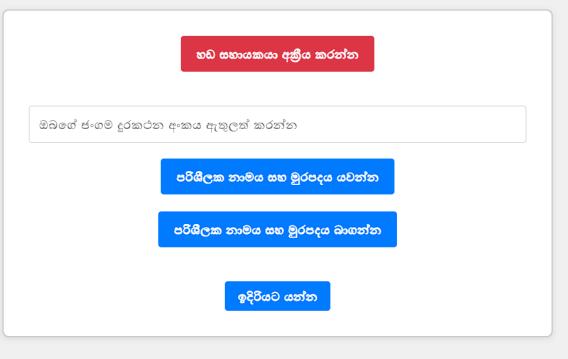
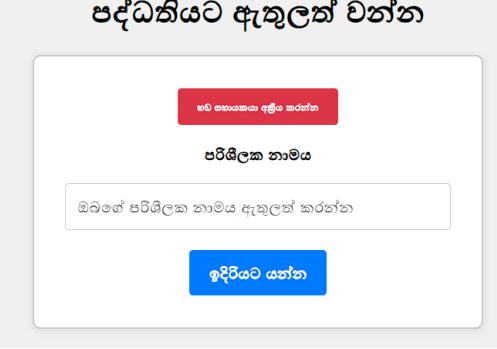
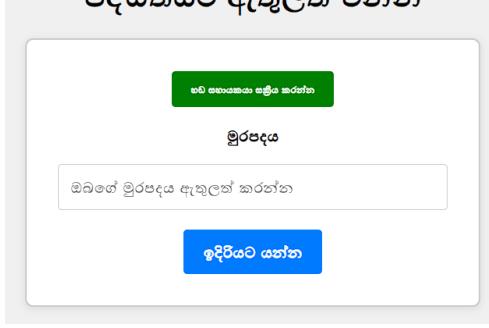


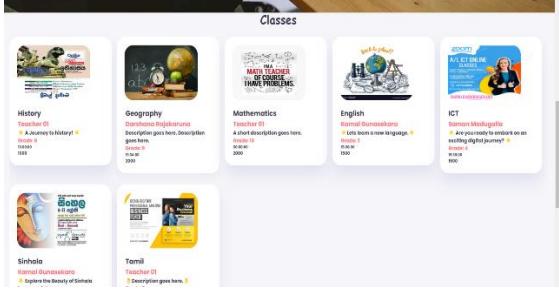
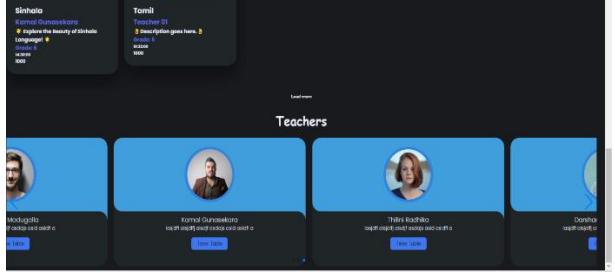
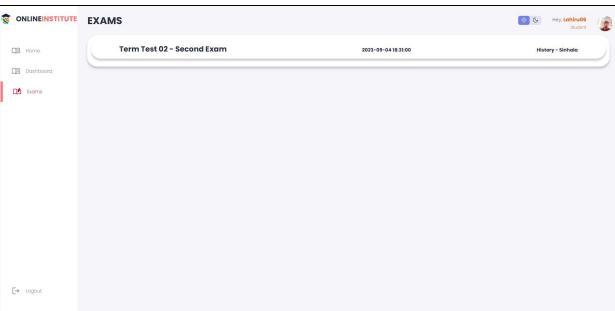
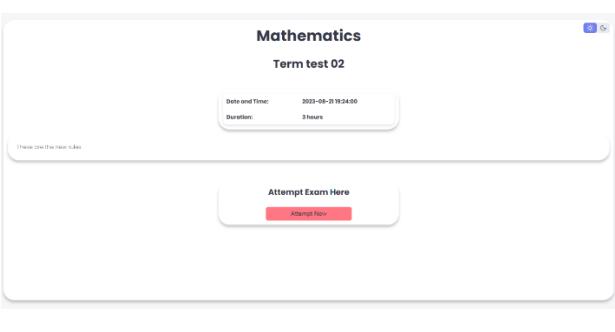
This popup window asks you that you have already registered or not. If you, then you have to press “ඔබ, දැනටමත් ලියාපදිංචි වි ඇත” button and if not press the other button. Specially, Sinhala Voice assistance will guide you that how you need to act in here.

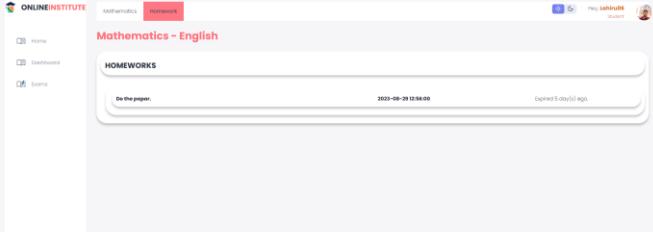
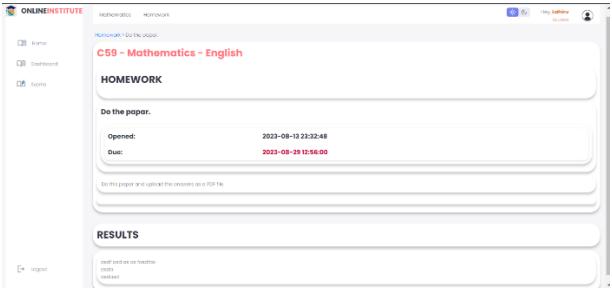
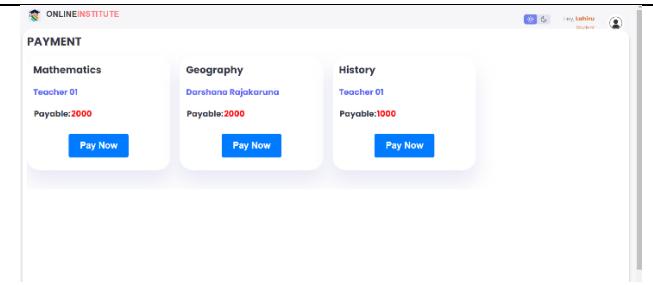
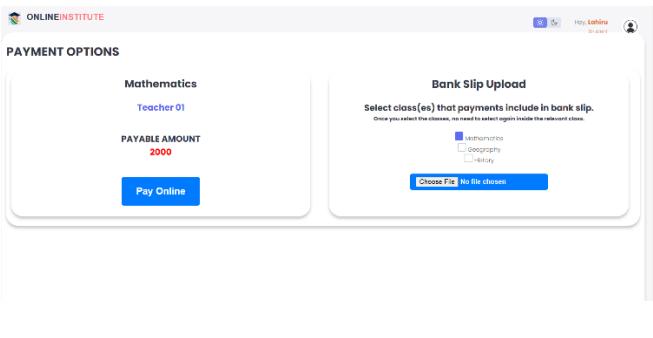
This is the form that take username from you using your voice. If you want to just type the name, you can also do that. Voice assistance guide you here that what you need to do to go next step.

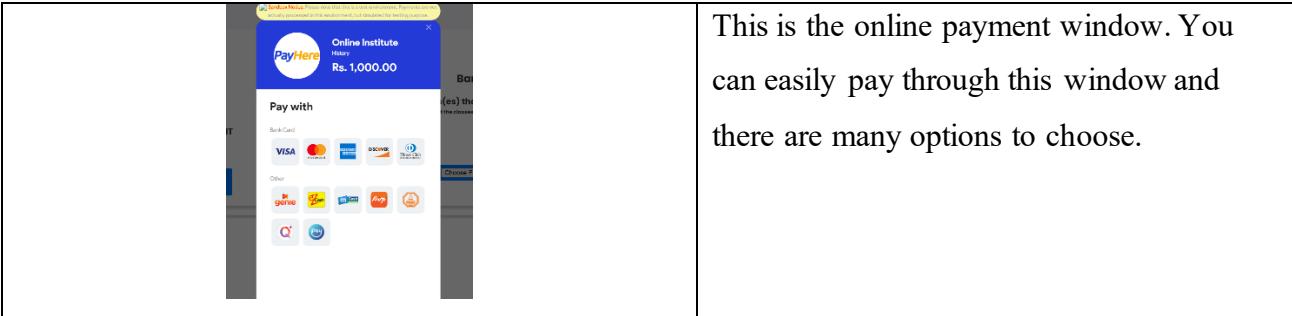
This form ask you to give a password and confirm it by entering it again. After entering the password, you can press “මුද්‍රිතයට යෙතා” button.

You have to enter students age here. Same as last step, Sinhala Voice Assistance will give you the commands that you need to do.

	<p>This is the final step of registration using voice assistance. In here you have enter your mobile number and you will get username and the password to your mobile. If you want, you can also download the username and password here.</p>
	<p>This is the login form display when you use voice assistance. You have to enter your username and then press the button to go to the next step.</p>
	<p>You have to enter your password to log into the system. If the password doesn't match with the username, it will redirect you to the username page and give you assistance to do it again.</p>
	<p>This is the page you see first when you log into the system. In the middle you will see notification. If you click the notification, you will redirect to the related link or offer.</p>

	<p>This section shows you the classes that are in the online institute. You can see the details by clicking those classes. If you have turned on the voice assistance, it will introduce these classes.</p>
	<p>This is the section that visits you if clicked on a class. In here, you can see all the details related to the class and you can request to join the classes. It will show you the status of the request by a message.</p>
	<p>This section shows you all the teachers that teach in the institute. You can easily check their time tables by clicking the "Time table" button.</p>
	<p>This is the exam page. This shows the exam that you have to face. You can easily enter the exam by clicking on the exam.</p>
	<p>This is the attempting form. You will see the exam rules here that you are entering. By clicking the "Attempt Now" button. You can take your exam easily. Exam time will be counted on the top right corner and after finishing the time, the exam will be ended automatically. If you finished the exam</p>

	<p>before time goes out, you can just press the finish button and leave the exam.</p>
	<p>This section shows you the homeworks from the classes. You can see the homework by clicking the homework title.</p>
	<p>This is the homework. It will show the homework and how you should upload the answer for the homework. When the result published for the homework, you will see the results for the homework right below the homework.</p>
	<p>This is the payment section. You will see the payable classes in here. You can click the pay now button and get into the payment option section.</p>
	<p>In here, you have two payment methods to choose. Pay online or upload slip are those. If you have paid bank for more than one class and then you have to select the relevant classes for that payment and submit the payment slip. Administrators will check the bank slip and update the payment details.</p>



This is the online payment window. You can easily pay through this window and there are many options to choose.

10.6 Appendix E – SRS Document

SOFTWARE REQUIREMENT SPECIFICATION

WEB BASED ONLINE INSTITUTE

HANDLING SYSTEM



Version 1.0

Prepared by

L.S. Abeysekara – E1946431

March 2023

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1 Introduction

This Software Requirement Specification document provides a complete description of all the functionalities and the specifications of the Online Institute Handling System. The developers and the testers can use this document as a reference for developing the design and test plan documents.

1.1 Purpose

Inflation incrementing day by day and people have to spend their money and time carefully. Because of the dollar deficit, country have a limited stock of fuels. Because of the reason, people of the Sri Lanka can have a limited fuel ration for their vehicles and most of the time that fuel ration isn't even enough for their daily working activities. But still parents provide their children travelling facilities to the school and extra classes.

The second problem is most of the students participate their classes get exhausted after the school and sometimes they fainting because of the exhaustion of travelling to the institute. Not only that, parents spend lots of money and time to transport their children to the institute and give them a ride back to home. Most of the parents have bad feeling about that problem because they have limited liters of fuels for their works and most of them looking for a good online institute but there are no any online institute that have a flexibility with their knowledge, capabilities and reliabilities.

This system can reduce the count of exhausted and fainting children and help to make them healthy and safe at home, help parents and students who haven't got the knowledge or skills to be a part of the online education or even people with some vision problems can easily take a chance to join this interesting learning method and final and the most important problem this system can solve is we can save the thousands of fuel liters for a day and by that we can save millions of dollars in this country and it helps all of the citizens of Sri Lanka to make their lives better again.

This document is explained a detailed web-based Online Institute Handling System. It will explain the different functional as well as non-functional requirements of the system, the interfaces of the system, what the system will do or how the system will interact with the end users, the constraints under which it will operate. This SRS document will provide a clear understanding of any designer and developer to assist in SDLC processes to develop the system. This will give a clear idea of the budget, goals of the project and how these goals will be achieved to project manager. This SRS will provide a solid base or foundation for the project. From this SRS, the designers can

design low level design documents and the QA team can create test plans and various test case documents.

1.2 Document Conventions

- Language: English
- Formatting:
 - Font: Times New Roman
 - Size:
 - Heading: 13
 - Paragraph: 11
- Page Layout:
 - Top: 1”
 - Left: 1”
- Abbreviations and acronyms
 - SRS – Software Requirement Specification
 - SDLC – Software Development Life Cycle
 - QA – Quality Assurance

1.3 Definitions

- End users: End users are teacher, students and parents who uses the system for the learning and teaching purposes and admin user is given separate authentication to the Online Institute Handling System.
- QA team: Group that testing the system
- Item: Online classes and teaching supply
- Customer: Who use the system for teaching and learning by joining the classes

1.4 Scope

The software to be produced is web based Online Institute Handling System known as ‘Online Institute’ which will help the students and parents to join classes from anywhere in or outside the country. The core part of the project is the online classes, online exams and other activities held online gathering teacher, student and parents. The main objective of the project on Online Institute is reduce fuel consumption and provide better online classes for without considering the language barriers for the parents and students. Also, it will reduce fainting children quantity in the extra classes and help parents to keep their child in a safe zone while there aren't nearby. This will help to save money and time them. Besides this system manage to pay online without going to any bank or some other places, keep parents updated about their children's attendance and exam details through the email and many more features includes this system.

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1.6 Overview

The remaining sections of this document provide a general description, including characteristics of the users of this project, the product's hardware, software, communication, user interfaces and the constraints and assumptions made while designing the Online Institute Handling System, along with ER diagram demonstration of the Online Institute Handling System. General description of the project is discussed in section 2 of this document. Section 3 gives the detailed description of the functional requirements and non-functional requirements of the product. Section 3 also discusses the external interface requirements and design constraints of the product. It also gives the user viewpoint of the product.

2 Overall Descriptions

2.1 Product Perspective

This Online Institute is divided into subdivisions such as class handling, user handling (teacher, student and parents), exam handling and payment handling. We make new system user friendly and easy to use interface. Thus, this project allows students and parents to find their expecting classes in their convenient time and with expected teachers and also teachers have ability to do their jobs in an ease environment with a good payment and every user can save their time and money as well. To work with this system easily, it has separated into find and joining classes, exam section, payment section and class handling section with profile details. System admin also have authentication powers in the system and he can manage all the users, payments, classes, exams, promotions, recording handling and parents and other contact information handling. And also, in the system all the information is maintained in a database.

2.1.1 Hardware interfaces

processor	1.9 gigahertz (GHz) x86- or x64-bit dual core processor
Memory	4GB RAM or higher
Hard disk	10GB free hard disk or higher
Display	Super VGA with a resolution of 1024 x 768
Internet	Dedicated connection to the internet

Table 1: Hardware interfaces

2.1.2 Software interfaces

Operating system	Windows 8/ 10/ 11
Web server	Apache server
Web browser	Google Chrome, Microsoft Edge, Brave browser
Software	Xampp software
IDE	Visual Code
Database	MySQL

Table 2:Software interfaces

2.1.3 Communication interfaces

Since the application must run over the internet, the bandwidth of the network must be greater than 50

KBps (400 kbps) and Latency must be under 150 ms to work best with this application.

2.1.4 Memory

To run this application, memory interfaces should be minimum 4GB RAM. Hard disk is up to 200 MB of available space may be required. The system will store all data dividing into 16 parts as per the character of MySQL database which are employee, student, student_enroll, teacher_enroll, banner, class, student_payment, employee_payment, notification, exam, question, result, homework, feedback, recording and teacher_requests. The system needs around 950Mb space in hard disk after installed the system.

2.2 Product Features

These are the main features of Online Institute Handling System.

- User Registration

There are three main users in this system. Those are student, teacher and admin. All the three users have to register to the system first to do their rolls. In the system, all three users can change their password and admin also has authority to manage other users and their accounts.

- Classes and banners add

In this module admin can manage new classes and make banners about the classes. These classes will show as banners to the students and students can make choices from them and if students want search classes by teacher's name or subject name, can easily do that using search bar.

- Payment handling

Admin has authority to manage all the payments in the system. Students fee or other payment and teachers payment also handle by admin in this section. Students can pay for the classes through the system and in the profile of the student shows the paid history of the student. Teachers also paid from the system and like students, they can also check their payments from their profiles.

- Report generation

This part belongs to admin. Admin can generate report regarding classes, payments, students, teachers and exams.

- Chat and notification handling

Admin is the one who response to the messages and feedbacks given to the system and he or she can manage them and take actions regarding to the message or feedback.

- Exam, homework and assignment handling

Admin and teachers both have authority to handle the exams, homeworks and assignments. It will shows to the students in their enrolled classes.

- Voice assistance

This function will help to use the system easily by guiding the users by giving voice commands.

2.3 User characteristics

The end users of Online Institute Handling System fall into two categories.

- Primary User

The primary user of the proposed system is the students and teacher. Students has facility to use voice assistance and with or without computer literacy they can fulfill their wishes inside the system.

- Secondary User

Secondary users will be Administration officers like Managers, System Operator and Database Administrator. Administrators are expected to be familiar with the interfaces of the Online Institute Handling System and should have Basic English knowledge, IT knowledge and how to working with internet. As well as administrators should have the knowledge of report generating, Data sorting. Furthermore, if an error occurs admin should be able to identify that error.

2.4 Constraints

Hardware limitations

- The proposed system is developed using the Notepad++ and visual studio code. It should initially be accessible through the XAMPP as a server.

- There are some database limitations to access the database. Following table describes system privileges of each actor. Administrators have most privileges while other users have least access to the database.

User category	Self change password	View all data	View own profile	Update other profiles	Update own profile
Administrator	Yes	Limited	Yes	No	Yes
Teacher	Yes	No	Yes	No	Yes
Student	Yes	No	Yes	No	Yes

Table 3: Database limitations

- The online management system's user interfaces were developed using English and Sinhala both languages.
- Security and safety of the system like database security, effects of power failure; database backup procedure etc. will be the system operator's responsibility.

Others:

- If a teacher wants to held a new class, then he or she should apply that by updating a cv to the system. And if student have any issue regarding participating to the class can need to inform the system administrator by sending a message.
- Only limited teachers count can teach the same subject. But students can participate any class that wishes.

2.5 Assumptions and dependencies

- The server-side components of the software system must operate within a Windows 8, 10, 11 operating systems environments.
- Full working of the system is dependent on the availability of 24 hour Internet connection.
- The users should know the English language or the Sinhala language, as the user interface will be provided in English and Sinhala

- The Administrator will maintain user profiles, manage payments, generating reports as well as connection details.
- The user database will be accessible in real time through the online management system when transitioning.

3 System Features

The following section presents the complete set of functional and non-functional requirements identified for the subject Online Institute Handling System. Functional requirements are listed by the features of the overall system, student, teacher and admin.

3.1 Functional Requirements

3.1.1 User account maintaining

User registration is the most important feature that the system has. It maintains the users of the system. Each user has specific different abilities and skills in the system. Because of this user account maintenance, system continuously works with proper maintenance.

Requirement	Description
UA 01	The system shall allow users to create an account by entering user details such as name, email and password. (If use the Voice Assistance to register, then it will provide an auto generated username and system will take user login)
UA 02	The system shall allow authenticate user to login to the system
UA 03	The system shall allow user to update the account details
UA 04	The system shall allow user to change the password
UA 05	The system shall allow user to logout from the system

Table 4: User Requirements

3.1.2 Class management

The class management feature provides administrators with a comprehensive system to find the best classes to the students and for the teachers to apply for a new class in the system. With this class management, students and teacher both have many advantages. Administrator has the full authority to manage all the classes.

Requirement	Description
CM 01	The system shall allow administrator to manage all classes and their banners on the system home page.
CM 02	The system shall allow students and teachers to check about available classes.

CM 03	The system shall display the detailed information about the selected classes.
CM 04	The system shall allow to search classes in the system to all the users.

Table 5 : Class Management

3.1.3 Payment Handling

Online payment ability is one of the most useful features in this system. This feature help to students to pay their class fee through the system by online.

Requirement	Description
PH 01	The system shall provide online payment ability to easily pay through the system.
PH 02	The system shall display the students their payable amounts.
PH 03	The system shall allow students to make their payments to the bank and upload the slip to the system.

Table 6 : Payment Handling

3.1.4 Report Generation

Report generation is one of the key feature in the system and it helps all the users to do their works easily and accurately. It helps administrator to get a better understanding about the system and users.

Requirement	Description
RG 01	The system shall allow to generate reports about exams, payments, users and classes.
RG 02	The system shall allow to generate customized reports about the exams, payments, users and classes.
RG 03	The system shall allow to administrator to share the reports with the other users like exams and payments.

Table 7 : Report Generation

3.1.5 Exam, homework and assignments handling

This feature is very useful for any kind of learning system. Not only the homework and other assignments to the students, teacher also can prepare exams for their students. Students also have a big advantage from this system.

Requirement	Description
EH 01	The system shall allow manage all the exams to the administrator and teacher.
EH 02	The system shall allow manage all the homeworks and assignments.
EH 03	The system shall allow provide the exam only for selected students. (Only relevant class students)

Table 8: Exam, homework and assignment handling

3.1.6 Voice assistance

This feature is introduced to help low computer literacy and low English knowledge have users. They can easily work with the system using this voice assistance service.

Requirement	Description
VA 01	The system shall provide voice assistance for the users to register to the system with guidance.
VA 02	The system shall provide voice assistance service to find the classes.
VA 03	The system shall provide voice assistance in Sinhala language to help low English knowledge users.
VA 04	The system shall provide auto generated username for the voice assistance using users.

Table 9 : Voice assistance

3.1.7 Provide search facility

By this facility, users can easily find what they looking for.

Requirement	Description
SE 01	The system shall enable user to enter the search text on the screen.
SE 02	The system shall display all the matching classes based on the search
SE 03	The system shall notify the user when no matching product is found on the search.

Table 10: Search facility

3.1.8 Teaching request handling

This feature is for to find the best teaching staff for the system and contact them with quickly as possible. It helps to keep the system speed and good.

Requirement	Description
TR 01	The system shall allow teachers to apply for teaching a class by uploading a cv to the system.
TR 02	The system shall allow administrator to check and send reply to the teaching applications.

Table 11: Teacher Request handling

3.1.9 Admin management

Most important feature of the system is the admin management. This admin management panel has the control of most of the things in the system.

Requirement	Description
AD 01	The system shall allow admin to manage the dashboard of the system
AD 02	The system shall allow admin to manage teachers of the system
AD 03	The system shall allow admin to manage students of the system
AD 04	The system shall allow admin to manage payments of the system
AD 06	The system shall allow admin to manage exams of they system
AD 07	The system shall allow admin to handle all the reports of the system
AD 08	The system shall allow admin to manage notifications and update of the system
AD 09	The system shall allow admin to make conversation with users and manage feedbacks of the system
AD 10	The system shall allow admin to handle all the recording of the classes
AD 11	The system shall allow one admin to update admin's own details

Table 12: Admin Management

3.2 Non-functional Requirements

3.2.1 Chatbot

This feature allows users to solve their problems quick as possible with the chat bot.

Requirement	Description
CB 01	The system shall allow users to chat and solve their problems with chat bot.
CB 02	The system shall allow users to contact a real agent through the chatbot if they want.
CB 03	The system shall allow admin to check and reply for the messages though the chatbot.

Table 13 : Chatbot

3.2.2 Provide special offers

Administrator can manage offers in the system and show them to the users.

Requirement	Description
SO 01	The system shall display all the available offers to the new or existing customers.
SO 02	The system shall allow user to select available offer.

Table 14: Provide Special offers

3.2.3 Get payment details through the email

Parents get notified students' payable amount through the email in the end of the month.

Requirement	Description
PD 01	The system shall send an email in the end of the month mentioning that their payable amount.
PD 02	The system shall allow change their email address for the payable amount message.

Table 15: Get payment details through the email

3.2.4 Provide details of the system (About Us)

This feature helps the users to get a better understanding of what they are dealing with, their capabilities and what are their limitations in the system and how to work with them and it gives more confidence when the user knows about the system and works in it.

Requirement	Description
AU 01	The system shall allow users to check about the system and who they are dealing with.

Table 16: User Requirements - Provide details of Juice bar

3.2.5 Feedback

Requirement	Description
FB 01	The system shall allow users to send feedback to the system.
FB 02	The system shall allow users to choose the feedback type.

Table 17: Feedback

3.2.6 Class record handling

Requirement	Description
RH 01	The system shall allow admin to manage the class recordings.
RH 02	The system shall allow admin to send links to download the recordings.
RH 03	The system shall allow students to request for class recording through a special interface.

Table 10 : Class recording handling

4 External Interface Requirements

4.1 User interfaces

When designing an interface, the main goal is to produce a user interface which makes easy to understand, efficient and user friendly to interact with the machine. Because of that User interface is the primary and very first interaction with user and system. It should interactive to user. UI design focuses on what users expecting through system and ensuring that the interface has fundamental facilities which are easy to understand, access and use. So, operator needs to provide minimal input to obtain required output. The system was designed with minimum number of colors range by following design rules. Users make mistakes most of the time, the system should be able to minimize those mistakes and at the same time it should be able to recover from errors.

When system in design phase developer followed most of UI Design Principles to achieve redundant of user confusion about system operations, as a result system should give instant error messages if a user makes any error or insert invalid input.

Only few user interfaces of Online Institute Handling System are provided in this section to show the structure of this system. Interface designs may be changed.

These are the main user interfaces in the system.

- Admin
 - Login and register
 - Admin dashboard
 - Login/ sign up
 - Manage classes
 - Manage users
 - Manage payments
 - Manage notifications and updates
 - Reports (Payments, users, exams, classes)
 - Teacher request handling
 - Class recording handling
 - Exam management
 - Messages and feedback handling
 - Profile

- Teacher
 - Teacher dashboard
 - Profile
 - Payment history
 - Exam history and marks
 - Exam making
 - Homework updating
 - Chatbot
 - Exams
- Student
 - Student dashboard
 - Profile
 - Payment interface
 - Payment history
 - Class recordings request
 - Exam history
 - Chatbot
 - Feedback
 - Exams
 - Homework and assignment

4.2 Hardware interfaces

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. Also, this system should run on Microsoft windows based system.

4.3 Software interfaces

1. User Interface (Front-end): The user interface will provide users with an interactive, easy to use graphical interface that allows them to access all of the features available within the system

application. It will be responsible for displaying all of the available options and allowing users to navigate easily and quickly between different parts of the application. HTML, Java Script and CSS will use to develop this.

2. Database Interface (Back-end): The database interface will allow the application to store, retrieve, and manipulate data from the underlying database. PHP will use to develop this section and MYSQL will use as the database.
3. Email Interface (Back-end): The email interface will allow users to send and receive emails from within the system. This could include automated emails, such as password reset emails, or manual emails sent by users for communication purposes. PHP and JavaScript will use to develop this section.
4. Payment Interface (Back-end): The payment interface will allow users to make payments for goods or services within the system. This could include anything from simply accepting payments via a secure third-party payment gateway to more complex financial transactions such as invoicing and refunds. PHP and JavaScript will use to develop this section.

4.4 Communications interfaces

This is a fully internet-based system. It needs active internet connection with 50KBps (400 kbps) and Latency must be under 150 ms to work best with this application

5 Other Non-functional Requirements

5.1 Performance

The product shall be based on the web and has to be run from a web server. Also, the product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run and hardware components of the user. The system should be able to manage any kind of workload. It should be able to customize the order handling, and this will be highly desirable for future extensions.

5.2 Safety Requirements

1. Backup power sources shall be available in order to maintain system operations in the event of an electrical outage.
2. Need to provide a backup database to keep safe all the files and documents regarding the system.

5.3 Security Requirements

The system should keep up security because the system handles important data related to the business processes. Because of that, the user's web browser shall never display a customer's password. It shall always be encoded with special characters representing typed characters. Moreover, the system's back-end servers shall never display a user's password. The user's password may be reset but never shown. The system's back-end servers shall only be accessible to authenticated administrators. Not only that, using sessions can provide a great security to the system. Sometimes user left the logged device on somewhere without logging out. Moments like that, the sessions will automatically logout from the system.

6 Other Requirements

6.1 Logical database requirements

Data entities:

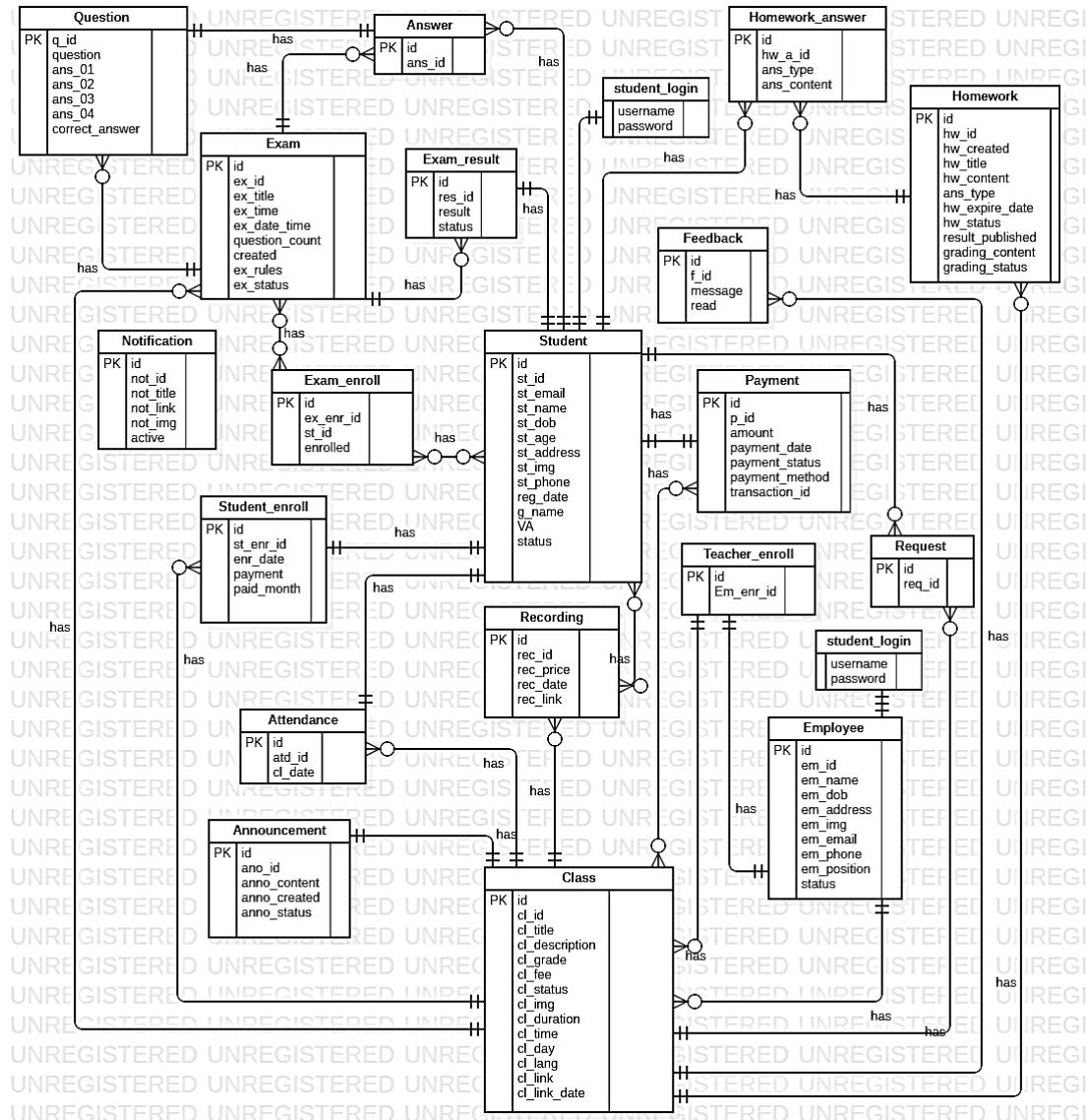


Figure 1: Entity Relationship Diagram Version 01 for proposed system

Assumption for ER

1. One student can enroll many classes and one class can be enrolled by many students.
2. One teacher(employee) can teach many classes and one classes can be teach by only one teacher.
3. One exam can write by many students and one student can write many exams.

4. One exam can make by only one teacher and one teacher can make many exams.
5. One admin (employee) can handle many notifications and one notification can handle by many admins.

Relational Schema for proposed System

student	st_id	st_username	st_password	st_name	g_email
	st_dob	st_age	st_address	st_img	st_phone
	reg_date	g_name	VA	status	id
employee	em_id	em_username	em_name	em_address	em_password
	em_email	em_phone	em_position	status	em_dob
	em_img	id			
class	id	cl_id	cl_title	cl_description	cl_grade
	cl_fee	cl_status	cl_img	em_id	cl_duration
	cl_time	cl_day	cl_lan	cl_link	cl_link_date
student_enroll	id	st_enr_id	cl_id	st_id	enr_date
	payment	paid_month			
teacher_enroll	id	em_enr_id	cl_id	em_id	enr_date
	payment	paid_month			
homework	id	hw_id	cl_id	hw_created	hw_title
	hw_content	ans_type	hw_expire	hw_status	result_published
questions	grading_content	grading_status			
	id	q_id	ex_id	question	ans_01
	ans_02	ans_03	ans_04	correct_answer	
answer	id	ex_id	q_id	ans_id	st_id
	st_answer	correct			
notification	id	not_id	not_title	not_link	not_img
	active				
announcement	id	ano_id	cl_id	ano_content	ano_created
	ano_status				
attendance	id	atd_id	cl_id	st_id	cl_date

exams	id	ex_id	ex_title	ex_time	ex_date_time
	question_count	cl_id	created	ex_rules	ex_status
feedback	id	f_id	message	st_id	read
recording	id	rec_id	cl_id	rec_price	rec_date
	st_id	rec_link			
exam_enroll	id	ex_enr_id	ex_id	st_id	enrolled
homework_answers	id	hw_a_id	hw_id	st_id	ans_type
		ans_content			
payments	id	p_id	order_id	st_id	amount
	payment_date	payment_stat	payment_meth	transaction_id	cl_id
request	id	req_id	st_id	cl_id	
exam_results	id	res_id	st_id	ex_id	result
		status			
student	st_id	st_name	st_dob	st_address	st_email
	st_phone	parent_email	parent_name	status	
employee	em_id	em_name	em_dob	em_address	em_password
	em_email	em_phone	em_position	status	
class	sub_code	cl_id	cl_name	cl_description	cl_status
	em_id	cl_time	cl_day	cl_lan	
student_enroll	st_enr_id	st_id	cl_id		
employee_enroll	em_enr_id	em_id	cl_id		
homework	hw_id	cl_id	hw_file	text	exp_date
exam	ex_id	ex_name	ex_date	ex_time	cl_id
	rules	ex_duration			
question	q_id	cl_id	ex_id	ex_date	question
	uploads	optional	option2	option3	option4
	answer	status			

result	res_id	ex_id	q_id	ans_id
banner	ban_id	sub_code	cl_id	b_file
student_payment	st_pay_id	st_id	cl_id	st_pay_date st_slip_file
	st_pay_status			
employee_payment	em_pay_id	em_id	cl_id	em_pay_date em_slip_file
	em_pay_status			
notification	not_id	not_file		
feedback	f_id	st_id	f_type f_message	f_date
recording	rec_id	cl_id	rec_price	rec_message
teacher_request	tr_id	tr_cv	tr_message	

Appendix

6.2 High level complete system use case diagram

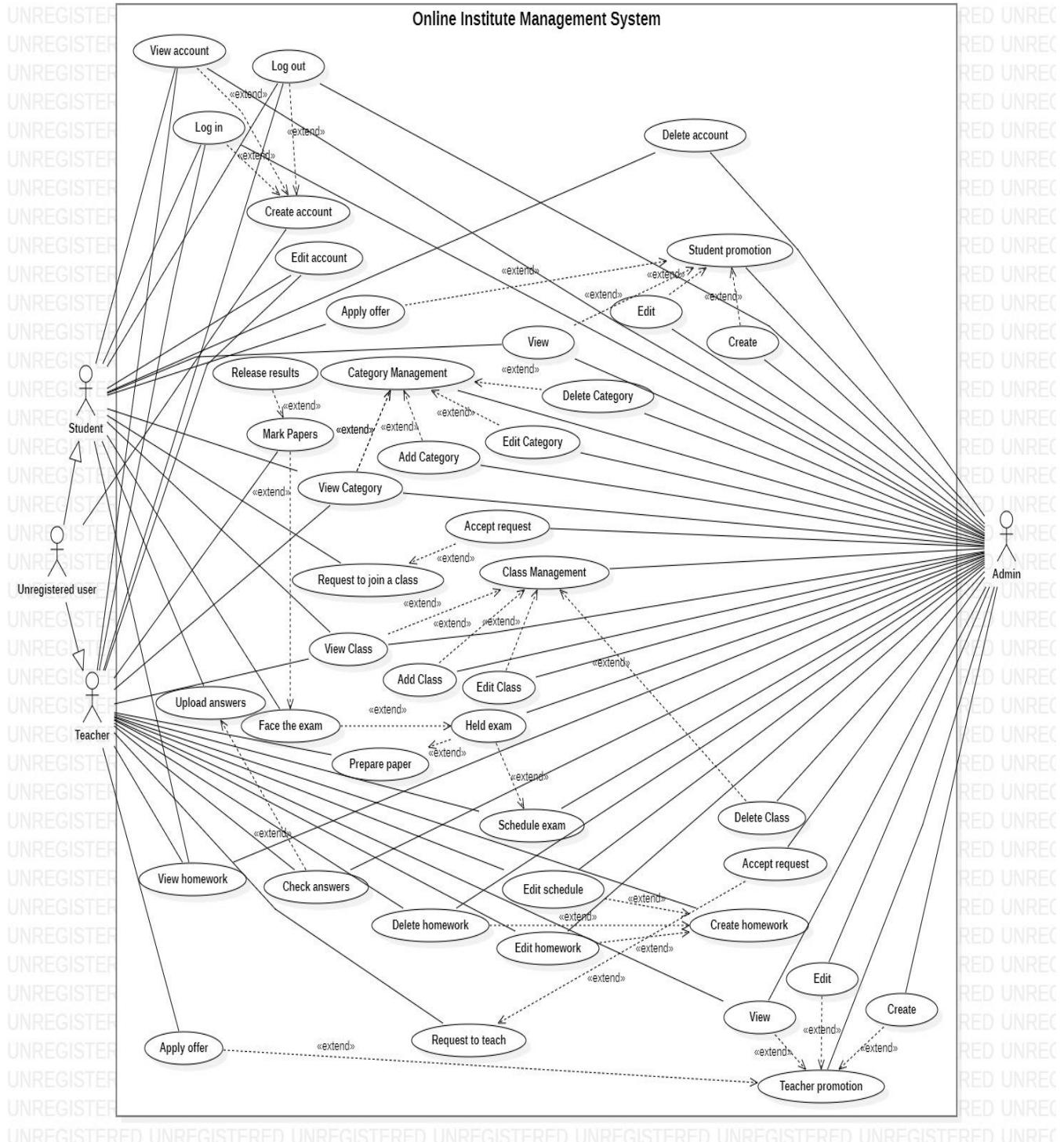


Figure 2: Use Case Diagram Version 01 for proposed system