

Business Analysis Report on the Adoption and Implementation of a Learning Management System at SkillUP Institute

Higher National Diploma in Information System Management 24.1F

Business Analysis Course Work

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(2024)

Title of the project: Business Analysis Report on the Adoption and Implementation of a Learning Management System at SkillUP Institute

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The project is submitted in partial fulfillment of the requirements for the module Business Analysis as part of the Higher National Diploma in Information System Management at the National Institute of Business Management

Declaration

“I certify that this project does not incorporate without acknowledgement, any material previously submitted for a Higher National Diploma in any institution and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my project report, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations”

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Executive Summary

1. Purpose

The report focuses on the process of transitioning to e-learning using a university-like learning management system in relation to SkillUP. This initiative has been embraced to improve the way educational materials are presented to learners, facilitate access to content for learners, enable lecturers to easily present their lecture materials, and introduce modern features for effective learning.

2. Key Findings

The existing manual methods do not meet the demands of the present times due to inadequate automation and interaction with the learners.

Stakeholders are students, instructors/Lectures, administrators, Higher Management, IT people, other Employees who all will be supported by a proper LMS.

The designed e-learning platform fills the three gaps, it presents subject matter in animated form and provides monitoring and communication tools.

3. Recommendations

Create an LMS that fits into the organization with multimedia, game-oriented features (Points System, Progress Bars, Peer Competitions, Collaborations, Tracking Streaks) and analytics (Engagement Analytics, Performance Analytics, Completion Tasks, Quiz and Assessment Analytics, Activity Logs, Feedback and Surveys).

Employ appropriate engagement of the stakeholders for proper implementation of the change.

Review and update the program to meet set purposes and objectives.

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Chapter 1: Introduction

1.1 Overview of the Organization

According to the information presented above, one finds that the SkillUP institute is an education provider which aims at combining students with different backgrounds such as fresh students and working Employees such as Internal and External Lectures, Instructors and Front Office Members. The institution hopes to meet the standards of quality education and enhance the level of education using appropriate technology.

1.2 Selected Scenario

Getting an E-learning system with Learning Management System as a solution to the growing demand of education delivery which is effective and efficient.

1.3 Existing Problems

- The inability of remote learners to get adequate educational materials.
- The lack of support for interactive and multimedia content.
- The stringent mechanisms are put in place to monitor the learners' progress levels and their interaction within the system.

1.4 Goals and Objectives

- The ability to access educational resources.
- The students' ability to have improved educational content that is highly interactive and has multimedia.
- Effective handles for monitoring progress and evaluating student advance across the course place.

Chapter 2: Gap Analysis

2.1 POPIT Framework

We first used the POPIT FRAMEWORK to perform gap analysis.

Below analysis, drawing upon the POPIT model, highlights the gap between the current state and the desired state as well as the means to close the gap for migration from a manual to an automatic e-learning system and learning management system (LMS). From a people's perspective, the change means that some will have to embrace new processes and undergo some form of training to utilize the new tools effectively.

2.2.1 People

Current state

- Manual Interaction: In-person lectures and office hours are the main ways that students and teachers communicate.
- Limited Accessibility: To participate and access materials, students need to be physically present.
- Traditional Practices: Manual tasks like teaching and record-keeping, which have been taught for years, are familiar to both staff and pupils.

Future state

- Enhanced Interaction: Forum discussions, text messaging, and live sessions just like offline/online work.
- Remote Accessibility: Students have a choice of where they want to attend courses, which helps them with any connection they need, according to their location.
- Adoption of New Methods: Students and staff will be using digit technology and platforms for teaching, learning, and record keeping.

Gap

- Resistance to Change: The first case of shifting one from a known thing (manual method) to something new might be discovered among the population that is using digital platforms.

- Training Needs: Students as well as staff members who will be trainees will need to be introduced to the new e-learning platform and the features of LMS so that they can perform skillfully and innovatively.

Solution

- Change Management Plan: You need to make a clear way to go to each room that will stop them from coming back, and brief sessions along with the right literature should also be taught besides other options that will address the issues.
- Ongoing Support: Create steps during the course of time and later, add the right tools to the process for easy information retrieval.

2.2.2. Organization

Current state

- Manual Operations: Teachers in the institution are still using the traditional methods of giving in-person lectures and handing out printed materials, and supervisory staff are keeping records either on paper or through spreadsheets.
- Limited Reach: The only students receiving these educational services are the ones who can come to classes.

Future state

- Digital Operations: Arriving at a stage of full automation with the use of online platforms for courses and digital tools for record-keeping might be the next step for the institution.
- Extended Reach: The option of teaching through e-learning methods is a possibility, too, with students who don't need to be present thanks to good web links where they can get the necessary information.

Gap

- Operations overhaul: The main transformation that a company undergoes includes major changes in existing operational workflows that might lead to a shift from manual processes to digital ones.

- Resource Allocation: The need for financial and technical resources for the project is required.

Solution

- Strategic Planning: A plan with detailed instructions for achieving the goal together with a schedule, budget, and optimal allocation of resources should be elaborated.
- Resource Mobilization: Obtaining the necessary funds, the sources, and the participation of partners will be vital for the implementation of the project.

2.2.3 Process

Current state

- Manual Processes: Teaching and learning along with record-keeping are manual processes that can only be done if they are physically recorded and using paper.
- Inconsistent Tracking: Student progress tracking is performed manually which, in most cases, leads to inconsistent and errors.

Future state

- Automated Processes: The system should be able to Student/Teacher engagement and progress tracking to give an improving report to the teacher, which should be done through the LMS.
- Consistent Tracking: LMS is utilized accurately so that student activities and progress through it are constantly monitored and reported.

Gap

- Process Re-engineering: The old ways should be designed in to the digital framework to meet the new requirements.
- Integration Challenges: Compiling data and information contained in paper files into the newly introduced LMS.

Solution

- Process Redesign: Create a roadmap and rework the existing processes to match the new LMS's features.

- Data Migration Plan: The new system needs to be integrated into data transfer which will be worked out in detail to ensure the accuracy and order of the transferred data.

2.2.4 Information Technology

Current state

- Outdated Infrastructure: The current IT infrastructure is hardly able to meet the business's manual procedures and has no or little digital integration.
- Basic Tools: Use of basic tools like Excel for record-keeping and minimal online resources.

Future state

- Modern Infrastructure: Set up a cutting-edge and strong information technology system that can help the LMS to achieve an effective level of the development of the courses online.
- Advanced Tools: Beyond the utilization of the classic programs, a range of more extensive digital tools covering activities such as course management, student monitoring as well as interactive learning will be applied.

Gap

- Infrastructure Upgrade: Significant alterations in the IT system would be necessitated-- Loyola Management School-- to support the new platform.
- Technical Expertise: Skilled professionals in the field of IT are needed to be able to administer and keep the new system operational regularly.

Solution

- Infrastructure Investment: Put money into uplifting the IT infrastructure, that is, the hardware, software, networks, and so on.
- IT Training and Support: Hire qualified IT staff or train them to manage the new system and support ongoing technical issues as well.

The summary of the above points is as follows.

2.2 Current State

This institution currently operates a manual process.

- **In-Person Lectures:** The major mode of education is through attending lectures in person.
- **Printed Materials:** Learning materials however are given out in form of hand-outs.
- **Paper-based Registers and Excel Sheets:** Student records and their progress are kept/updated on paper registries and excel sheets.
- **Possibly Inadequate Contact Hours:** Interaction between students and instructors is limited within the duration of the classes and office hours.
- **Presence Matters:** Students need to be in class to participate in the lecture sessions.

2.3 Future State

Here the current state of the manual process in this institution becomes an automated process.

- **Course Available Over the Internet:** The course content is now online and can be accessed from any location.
- **E-Learning Resources:** Other e-learning resources are also in form of videos, pdfs, and interactive content among others.
- **Live time Logs:** LMS has a facility for monitoring student activities and their progress in an automated manner.
- **Active Participation Forums:** There are forums, messages, and live sessions that assist participants to communicate.
- **Elimination of Location Constraint:** The materials, as well as the courses, can now be accessed and taken from any area.

2.4 Challenges

- Overcoming inertia of sticking to entrenched practice.
- Maintaining integrity and interaction aspects of the content.
- Availability of technical as well as financial resources.

2.5 Opportunities

- More students from remote regions are likely to enroll.
- Better degree of student participation and performance monitoring.
- Collaborating with other partners is an option.

2.6 Solutions

- Create a step-by-step implementation plan in addressing the resistance.
- Concentrate on the production of quality multimedia content.
- Mobilize resources and other partners to assist the project.

Chapter 3: Stakeholder Analysis

3.1 Stakeholders

- Students - The most natural stage course accesses who complete tasks.
- Lectures - The course who creates and delivers content.
- Administrative Staff - Responsible for overseeing users and maintenance of the servers.
- Higher Management – Get all the decisions
- Exam Department - Get all the students exam details
- IT Department - Performed maintenance and helped with infrastructure.
- Parents - Other parties who follow up on student's performance.

3.2 Involvement and Impact

- **Students:** Very High impact and great interest.

Involvement / Impact Level: High - Students are the primary users of the LMS. They directly engage with the platform in order to gather course materials, finish assignments, communicate, and track their progress. Besides, their user experiences and feedback are vital to the functioning of the system.

Interest Level: High Description: Students are keenly interested in a platform that is easy to use, convenient, and creative in learning, and as a result, they equal their educational experience, and students get the necessary instructions for participating in online instruction.

- **Instructors / Lectures:** Very High impact and great interest.

Impact Level: High - Lecturers are the ones who create, present, and administer course content through LMS. The platform's quality is determined by their ability to teach effectively using it, which also influences how students participate

Interest Level: High - Educators don't just want tools to generate and divide information, or enforce administrative chores, but also educational data sets to monitor, reflect and thereby improve the learning process and performance respectively.

- **Administrative Staff:** Moderate impact and interest.

Impact Level: Medium - Administrative staff are the ones who supervise user management, keep records, and guarantee the conduciveness of system use. They are people whose role is very important in making sure the system is stable, and the users are happy with it.

Interest Level: Medium - Administrative staff look for a good and easy-to-manage system that will make the administrative tasks easier, decrease the load, and guarantee the data are accurate.

- **IT Department:** Very High impact and Moderate interest.

Impact Level: High - The IT department is responsible not only for LMS infrastructure but also responsible for regular maintenance along with securing and making the system available. Their skills are a major factor in the platform's technical success.

Interest Level: High - The IT department is interested in a system that not only can be extended easily but also is secure and manageable, which means minimal downtime and few technical problems, while still being the backbone of the institution's infrastructure.

- **Parents/Guardians:** Low impact and Moderate interest.

Impact Level: Low - Parents aside, they are the secondary stakeholders who help their children maintain performance and progress through the LMS. Their participation can encourage students' motivation and emotional encouragement.

Interest Level: Medium - caregivers not only cooperate but show some initiative when they can check the details of their children's studies and hence, they can help their kids where the need is.

3.3 Management Strategies

- **Students:** Go through the comments and organize a focus group.
- **Instructors:** Create courses for them and get involved in their creation.

- **Administrative Staff:** Updates should be provided on a routine basis, alongside particular areas of focus.
- **IT Department:** Remain involved in situational planning and provide resources where possible.
- **Parents/Guardians:** Maintain contact during the above period, so it will be easier to send the report.

Chapter 4: Requirements Specifications

4.1 Functional Requirements

- Performance of user registration and signing in.
- Course administration: adding new courses, modifying existing one, cancelling.
- Capability of uploading multimedia files: clips score courseware.
- Organization of live events (Zoom/Google Meeting API features).
- Measuring and reporting progress.

4.2 Non- Functional Requirements

- The system would be able to scale with an increase in users.
- The system would have security for sensitive information.
- There would be user's ease of understanding in terms of the interface.
- The system would have fast load times and minimal downtimes.
- Systems designed in such a manner would achieve standard compliance.

4.3 Elicitation Techniques

- **Interviews:** Individual discussions with important people.
- **Surveys:** Collecting a lot of different opinions.
- **Workshops:** Collection of ideas and ranking them.

Chapter 5: User Stories & Wireframes

5.1 User Stories

Student Perspective

Title: Learning Management System-Student Enhanced with Login Functionality

Who: Students

Why: This is to further enhance student engagement and organization, academic support, and time management to ensure smooth learning.

What: Security-enabled login LMS, through which students will be able to log in to the platform, send in assignments, notifications, checking of feedback, record of attendance, interaction in live sessions, bookmarking of content, group activities, and ability to request academic support.

User Story:

As a student, I want an agile yet secure authentication to log into the LMS so that I have access to my personalized learning dashboard and be assured my academic data is protected.

When logged in, I would want to have an integrated LMS to help enhance learning through a set of varied features. I need the ability to “submit assignments online” with multiple file format options and confirmation of successful submission, so as never to miss any deadlines. I also want to “receive instant notifications” via email or within the LMS dashboard regarding approaching deadlines for assignment submissions, live sessions, or freshly added materials, so I can stay organized and keep up with my courses.

Furthermore, I will want to “access graded feedback” for my assignments, where grades are given with comments and suggestions for improvement, so I can learn from my performance continuously and improve my work in the future. I would like to be able to “track my attendance” across all sessions, seeing the number of classes I've attended and the remaining sessions for compliance.

This would include, for better time management, a “calendar integrated within the LMS” itself, showing deadlines, live sessions, and exam dates to enable me to plan my study schedule and

prioritize my work. I should also be able to *ask questions during live sessions* through integrated live chat or Q&A features, so I can clarify any doubts and participate in the lectures.

In order to help my studying and revision, I would like a “bookmarking” feature where I can set markers on the most relevant lectures, videos, or readings so that when the time comes for studying or doing assignments, it will be easier to go back to these materials. I will also want to participate in group activities through a dedicated workspace that enables me to collaborate, share files, and track the progress of my group tasks so that effectively the teamwork will be done on the assignment.

Lastly, I would like a help-request feature through which I can request academic help when it is needed, either by messages directly to lecturers or booking one-on-one meetings. That way, I will get the help I need for an issue that has been bothering me, or any confusion about course content.

All these functions combined will make a big difference in managing my studies better, meeting deadlines, participating more in the learning process, and getting academic support when needed-all in all, it will be easier to make the whole learning process more effective.

Lecture Perspective

Title: All-Inclusive Lecturer Learning Management System with Secure Login

Who: Instructors/ Lectures

What: A safe, login-enabled learning management system that enables instructors to efficiently administer classes, communicate with students, assess work, keep tabs on attendance, and assess academic achievement.

Why: To improve communication, expedite administrative duties, and concentrate on providing top-notch instruction.

Story: In order to make sure that only authorized users may manage academic content and student information, I, as a lecturer, wish to log in securely to the LMS while viewing my personalized dashboard.

For students to have easy access to course materials throughout the semester, I would like to be able to upload and arrange lecture slides, videos, and assignments once they are logged in.

To minimize the number of manual follow-ups, I would also like it to allow me to plan live sessions and tests so that students receive automated reminders about them to participate on time.

To save time and provide students with helpful feedback as soon as possible, I would like the LMS to have an online system for reviewing and grading assignments. This would allow me to access the assignments that have been turned in, add my feedback, and distribute scores in an organized way.

Through an integrated feature for recording student involvement in live sessions and class activities, I would want to track student attendance. This will allow me to keep an eye on my students' engagement levels and assist those who need it.

For virtual sessions, I require a live Q&A or discussion forum where I can directly address students' queries and allay their concerns. To notify or remind students about deadlines, timetable modifications, or course updates, I also need a messaging system.

Additionally, I would like a group management function that would make it easier for me to form, assign, and oversee project groups and give students greater confidence in cooperating on certain tasks.

Finally, to customize my approach to each student and offer tailored help for growth, I need a student progress tracker that can give me insights into their performance, attendance, and involvement.

These elements will guarantee that the students obtain the best education possible while enabling me to efficiently deliver an organized yet interesting learning experience with the least amount of administrative burden.

Institute Management Perspectives

Title: Effective LMS for Management to Administer Academic and Administrative Activities

Who: Management

What: Secure LMS platform to enable management to administer and manage institutional processes, such as monitoring student performance, tracking and evaluating lecturer activities, course content management, and report creation.

Why: Enhancing institutional oversight, optimization of resource allocation, and facilitating informed decisions.

User Story:

As a management user, I should be able to log into the LMS with a secure authentication system; this will allow me to access a dedicated dashboard that provides an overview of academic and administrative activities, ensuring data security and streamlined operations.

Once logged in, I want the LMS to have a dashboard with analytics that give insights into key metrics: students' performance trends, attendance rates, and course completion statistics, to enable me to assess the effectiveness of the institution's academic programs and identify areas for improvement.

I will also need to track the lecturer's activity about uploaded course materials, scheduling live sessions, and giving feedback to the students, which guarantees that lecturers are maintaining academic standards and teaching according to a timeline of the curriculum.

For this, I want to make sure that the LMS has course management where I would be able to oversee structure control of courses, give approval of content, and alignment within the institutional goals for consistency and quality across programs.

From an administrative perspective, I would want the LMS to have automated report generation to enable me to create detailed reports about student performance, attendance, lecturer engagement, and overall course outcomes. This will provide me with useful data for strategic decision-making, while satisfying the requirements of various accreditations.

What I want for seamless communication is an integrated notification system that enables me to send general announcements institution-wide or even target specific groups, like students or lecturers, to keep them informed about critical updates.

Lastly, I would want the LMS to have a feature of collecting feedback to allow me to solicit input from students and lecturers on the platform and courses to continuously improve in line with user needs.

This LMS will empower me to oversee academic and administrative processes efficiently, make informed decisions, and ensure the institution meets its educational goals effectively and consistently.

IT Team perspective

Title: Robust LMS for IT Technicians to Ensure Seamless Functionality and Maintenance

Who: IT Technicians

What: A secure and efficient LMS that will allow IT technicians to manage technical configurations, monitor system health, troubleshoot issues, and ensure seamless platform functionality.

Why: To maintain system reliability, minimize downtime, and support uninterrupted academic and administrative processes.

Story:

As an IT technician, I want to log into the LMS with a secure authentication system to access a specialized dashboard for monitoring system health, managing configurations, and troubleshooting issues, ensuring seamless platform performance.

I will be able to monitor the health of the server, analytics on its usage-including uptime, bandwidth usage, and user activity logs-so that I can anticipate any action that can be taken to avoid any outages and ensure uninterrupted access to the LMS.

I also need a user management feature that gives me account creation, editing, and deactivation privileges, permission allocation, and access control for the platform. All this helps in maintaining data integrity and ensuring system security.

For ease of maintenance, it is important to have an automated backup arrangement that will secure all the data on the platform, such as course materials, user data, and logs, to ensure fast recovery in case of data loss or system failure.

I'd want an error reporting and diagnostic tool that automatically logs system errors, warns of critical issues, and suggests actionable insights in order to remedy them quickly. It would minimize some development time wasted on troubleshooting and would be an enhanced user experience.

I need a system configuration management feature that will enable me to optimize the LMS infrastructure, including but not limited to adding storage, updating software, or integrating new tools, to make sure the platform can scale with increased user activity and new functionalities.

For addressing user queries, an IT support ticketing system should be integrated into the LMS to support receiving and tracking requests by students, lecturers, and management. In this respect, I am able to prioritize and resolve technical issues.

Finally, I will need unrestricted access to the advanced audit log, which keeps track of all administrative activities and changes to the system, ensuring accountability and compliance with institutional policies and data protection regulations.

The LMS will enable me to manage a stable, secure platform; maintain customer support; and realize the academic and administrative goals of the institution, without technical interferences.

5.2 Wireframes

Unified Login Interface for LMS Actors

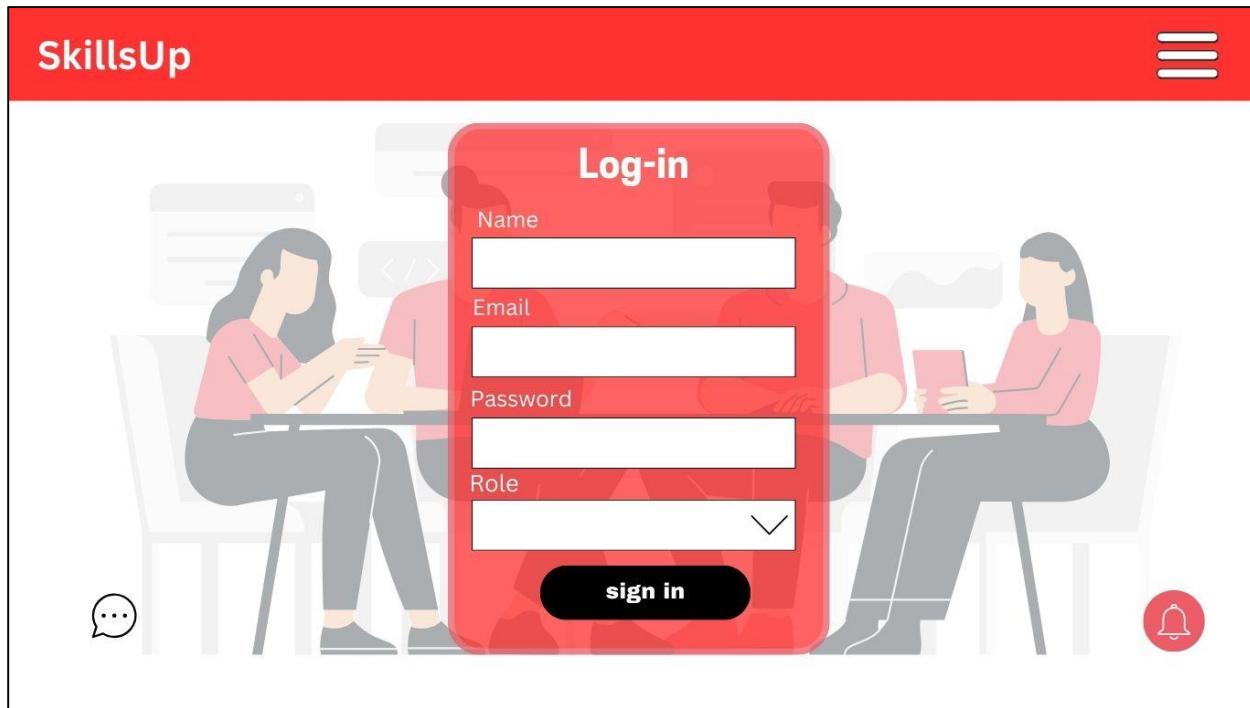


Figure 1:login

The Skillsup LMS wireframe series shared the ease of an interface tailored for each role: Student, Instructor, and Administrator. Across multiple screens, there is consistency in design elements. Below, a description of each is provided.

Login

The login screen contains fields such as Name, Email, Password, and a dropdown selection for Role: options are Student, Instructor, and Administrator. There is a Sign In button to log in with the credentials of the user. Notifications can be viewed through a bell icon and a text icon at the bottom of the screen. When a login is successful, a "Login Successful" message is displayed on the screen, while the user is taken to their dashboard. When it fails, a "Login Failed" message is displayed on the screen, while the user is routed to the home page or the reset password screen

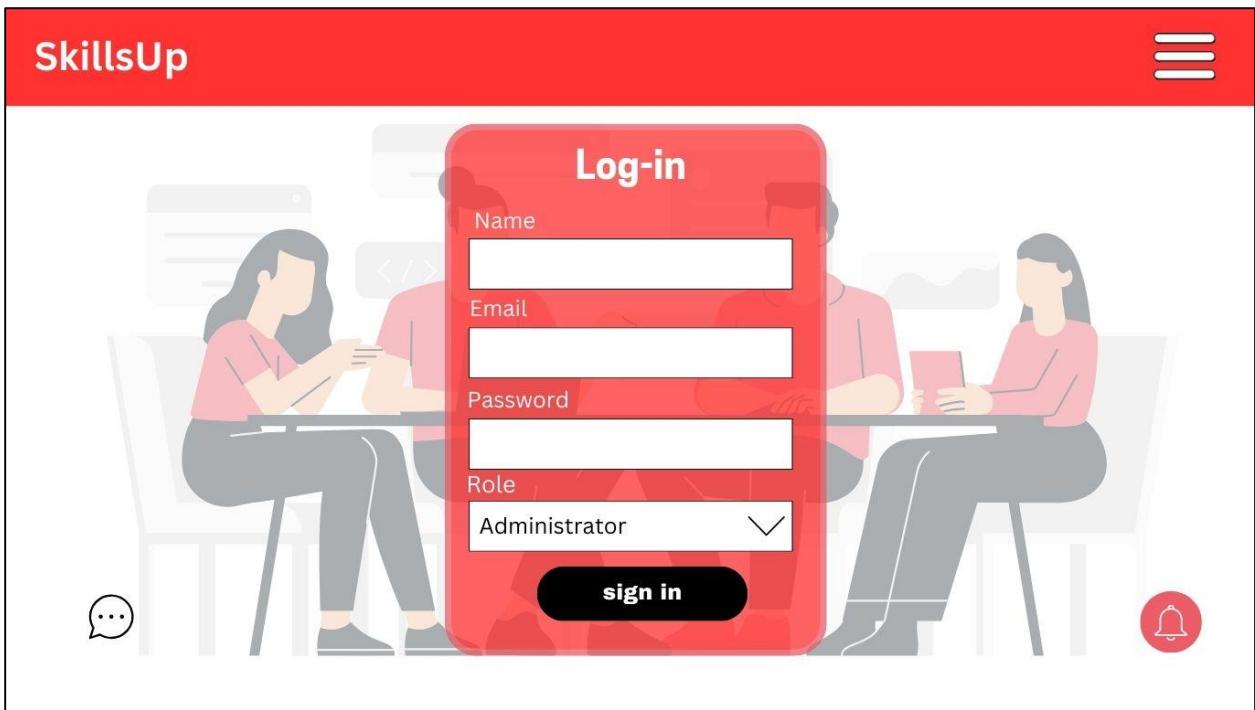


Figure 2:login category selected



Figure 3: login select category

Role Selection

A different version of the Login View allows the user to choose their relevant role for access



Figure 4: Login successful message

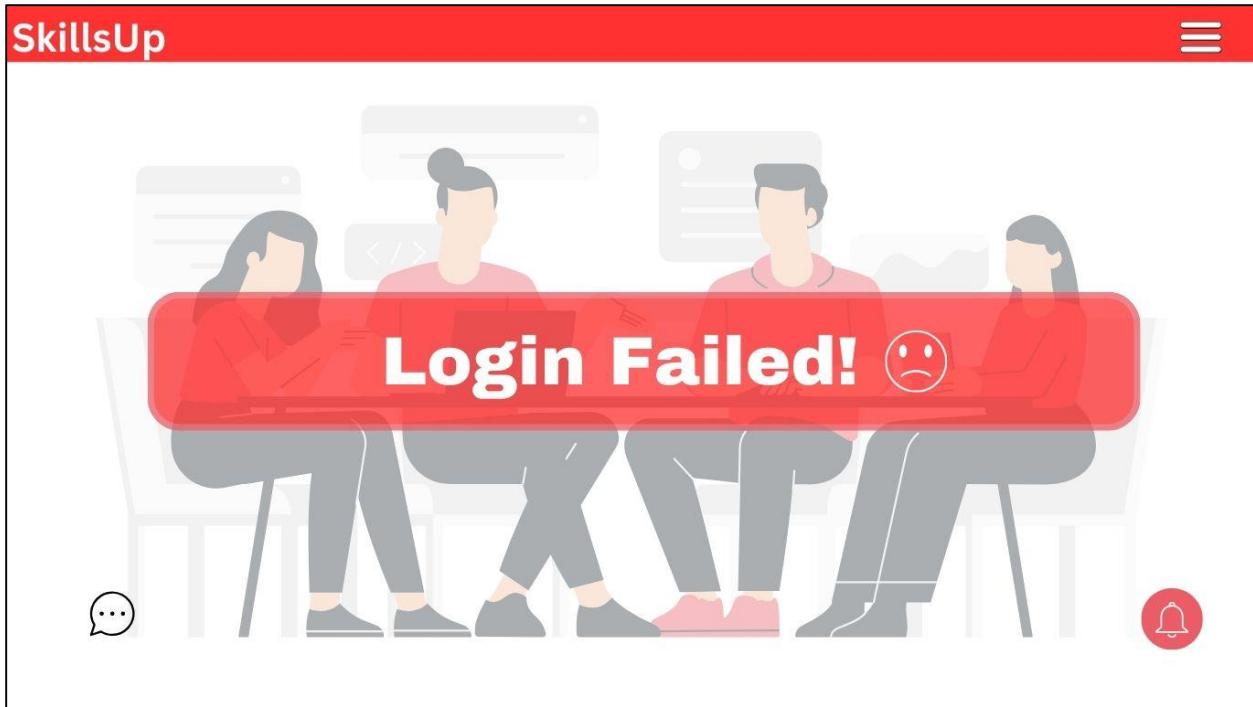


Figure 5: Login failed message

Login Feedback

- Login Successful: Redirects the user to their dashboard.
- Login Failed: Redirects users to the home page or the reset password screen

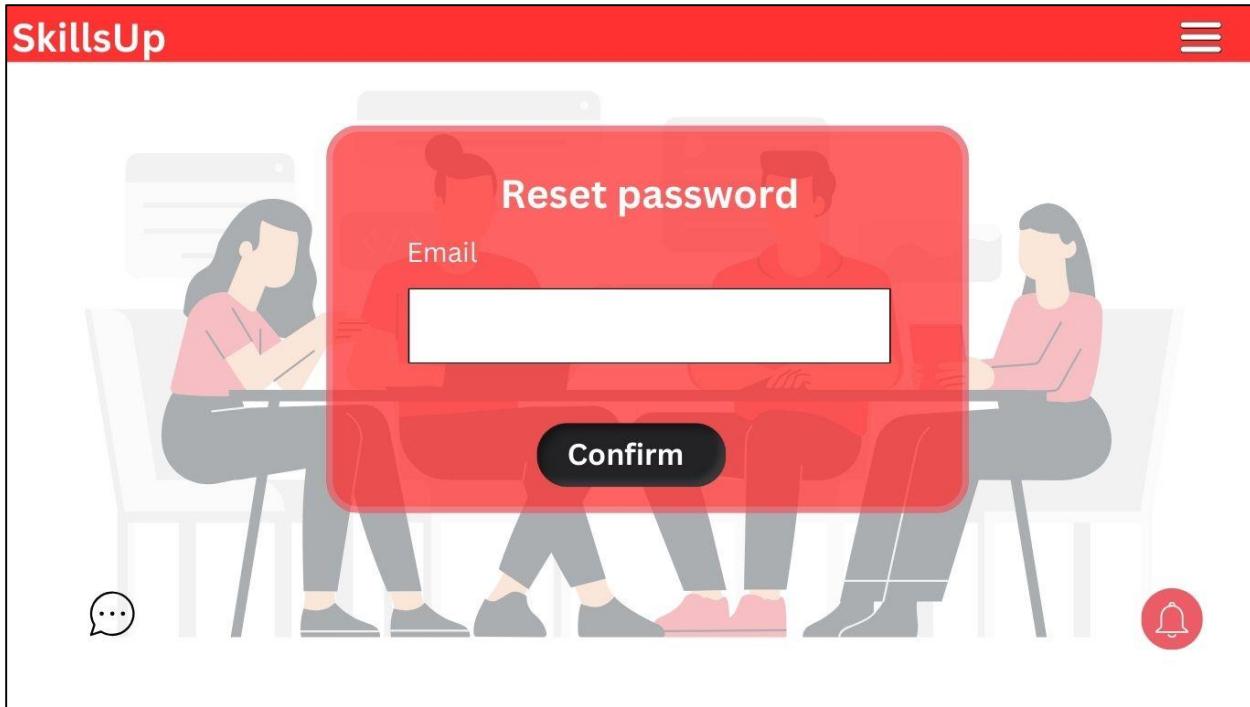


Figure 6: Reset password

Reset Password

The password reset screen includes:

- A text box to input the registered email address.
- A Confirm button that will send a 6-digit OTP to the provided email.

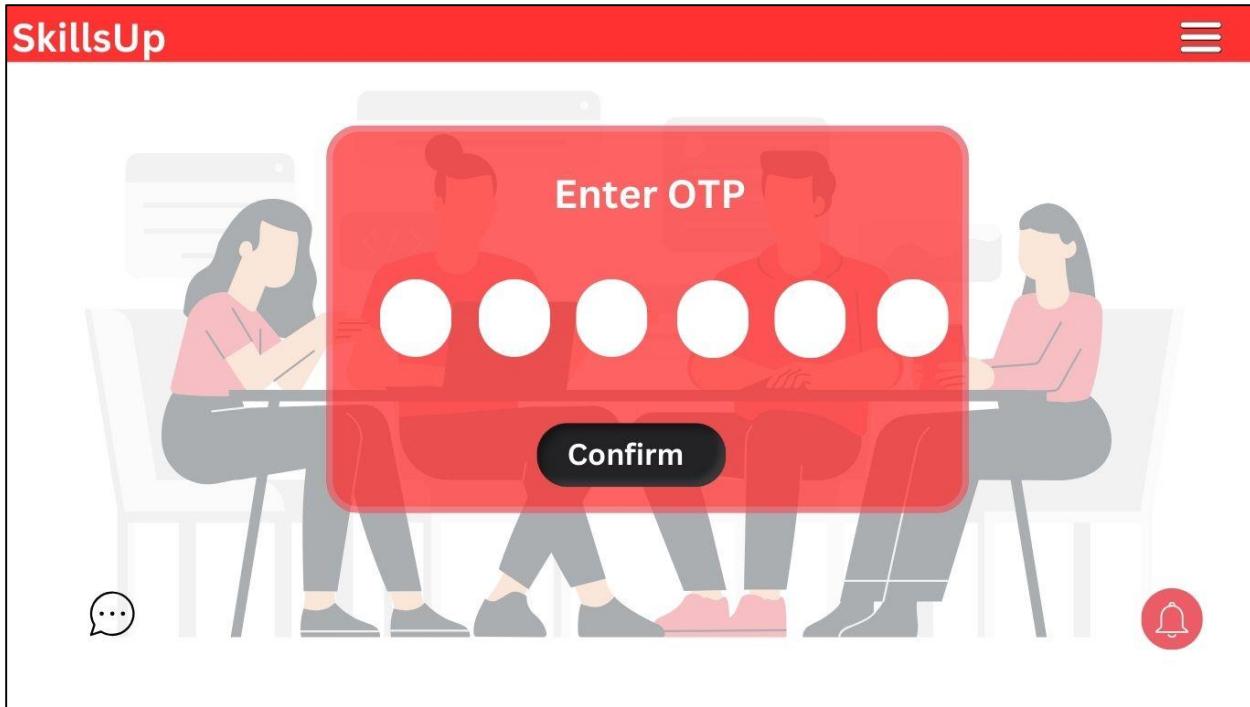


Figure 7: OTP verification

OTP Entrance

This screen enables users to validate their identity by:

- Entering the 6-digit OTP in designated spaces.
- Clicking a Confirm button to validate the OTP.

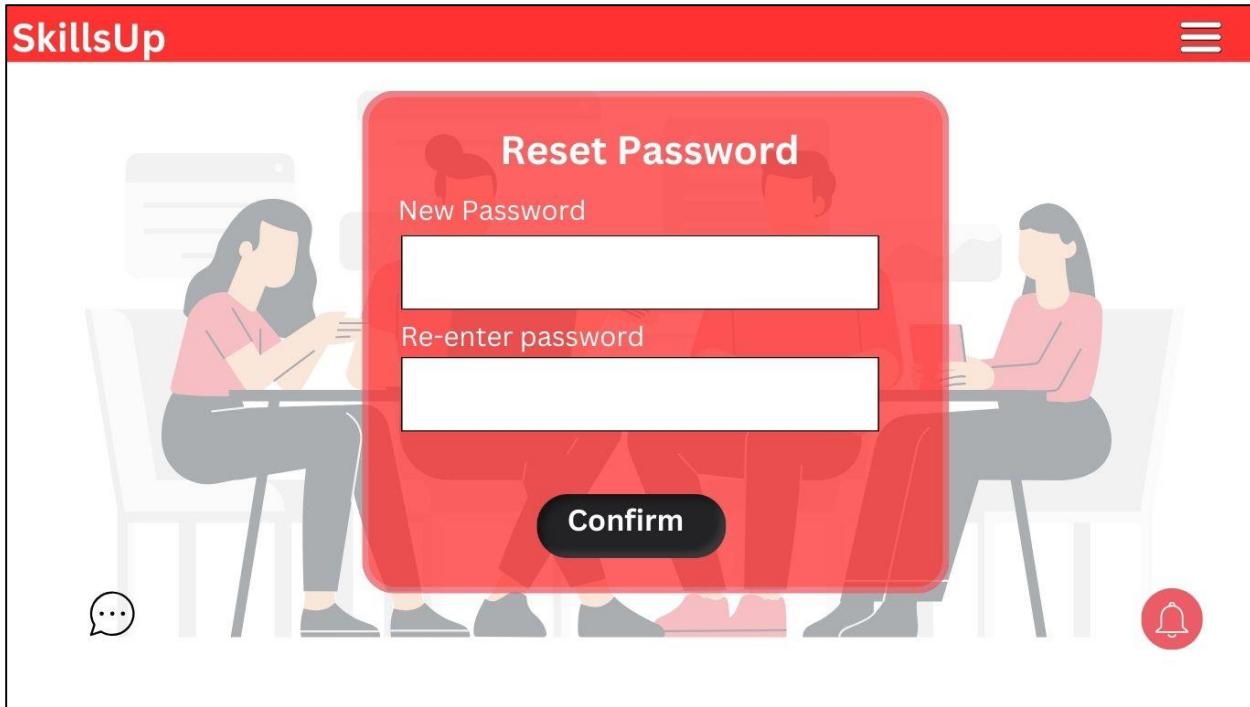


Figure 8: Reset password

Reset Password

The password reset screen includes:

- Enter new password
- Re-Enter new password



Figure 9: Password successful notification



Figure 10: Student Dashboard

Dashboard

The dashboard is the "homebase" of all user roles and includes:

- Key sections: Assignments, Livestreams, Calendar, Grades, and Support.
- Summary of Upcoming Deadlines and Events.
- Notifications, such as password reset confirmations are given via the bell icon.

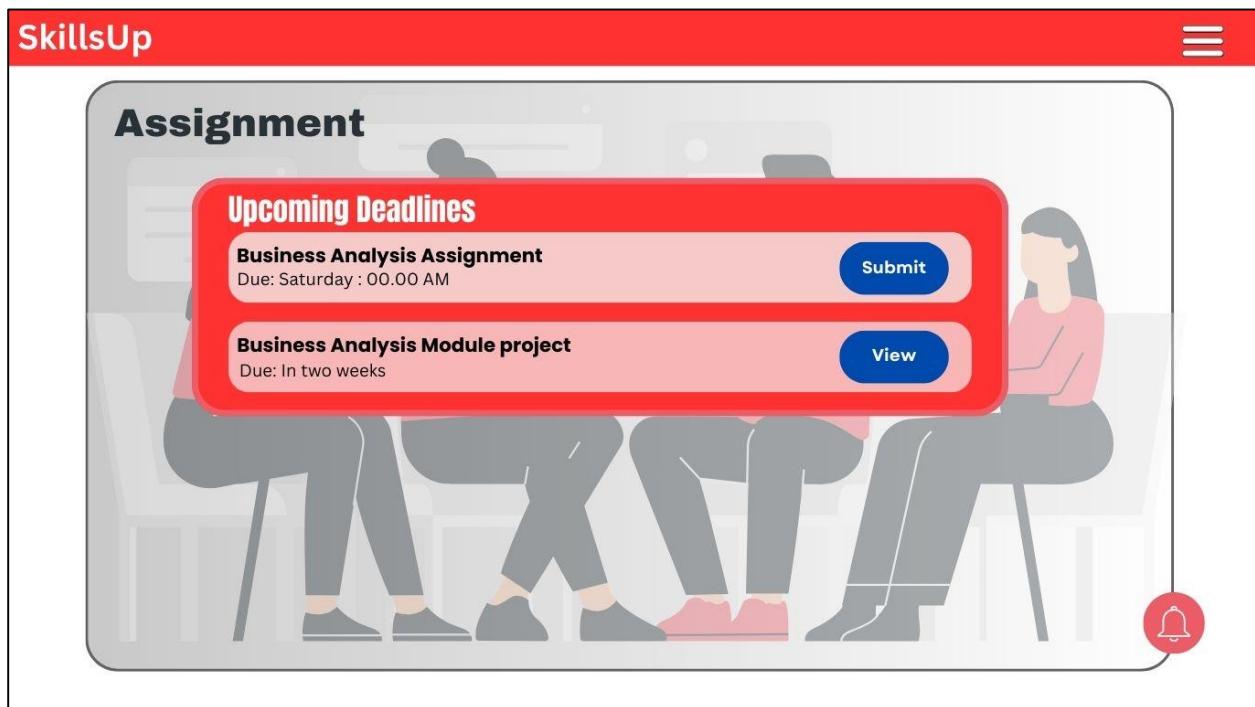


Figure 11: Assignment page for students

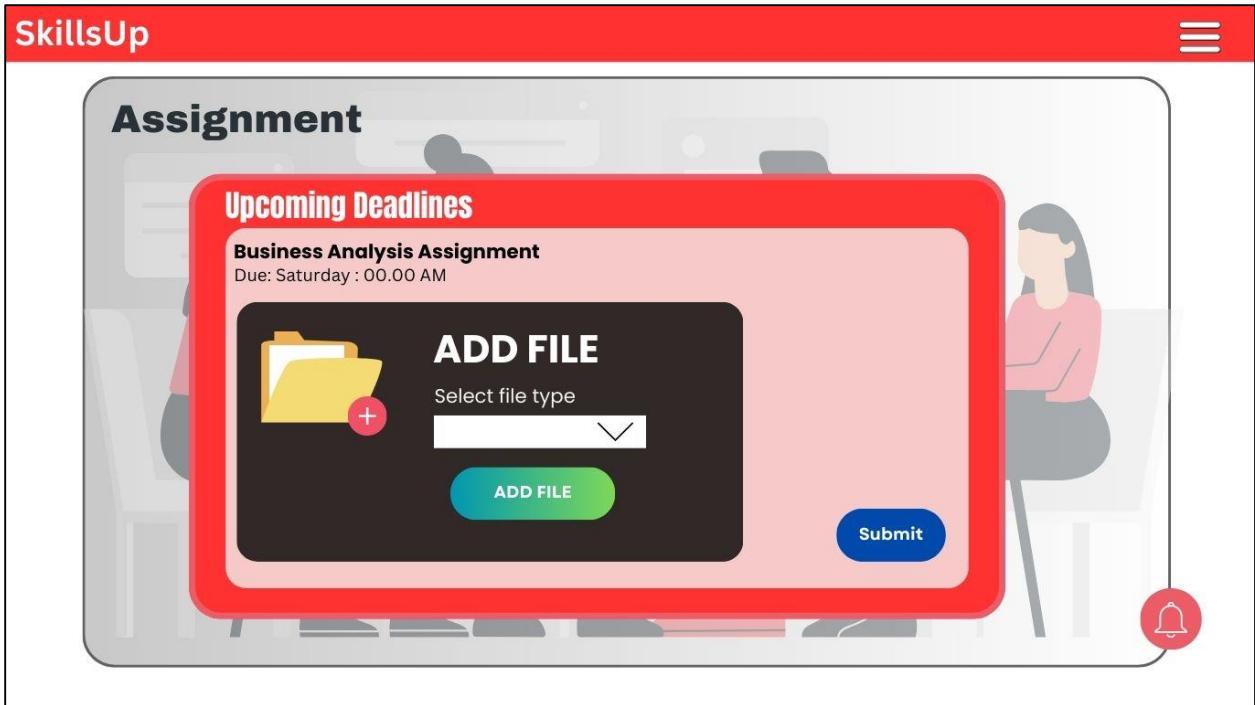


Figure 12: Assignment Submission

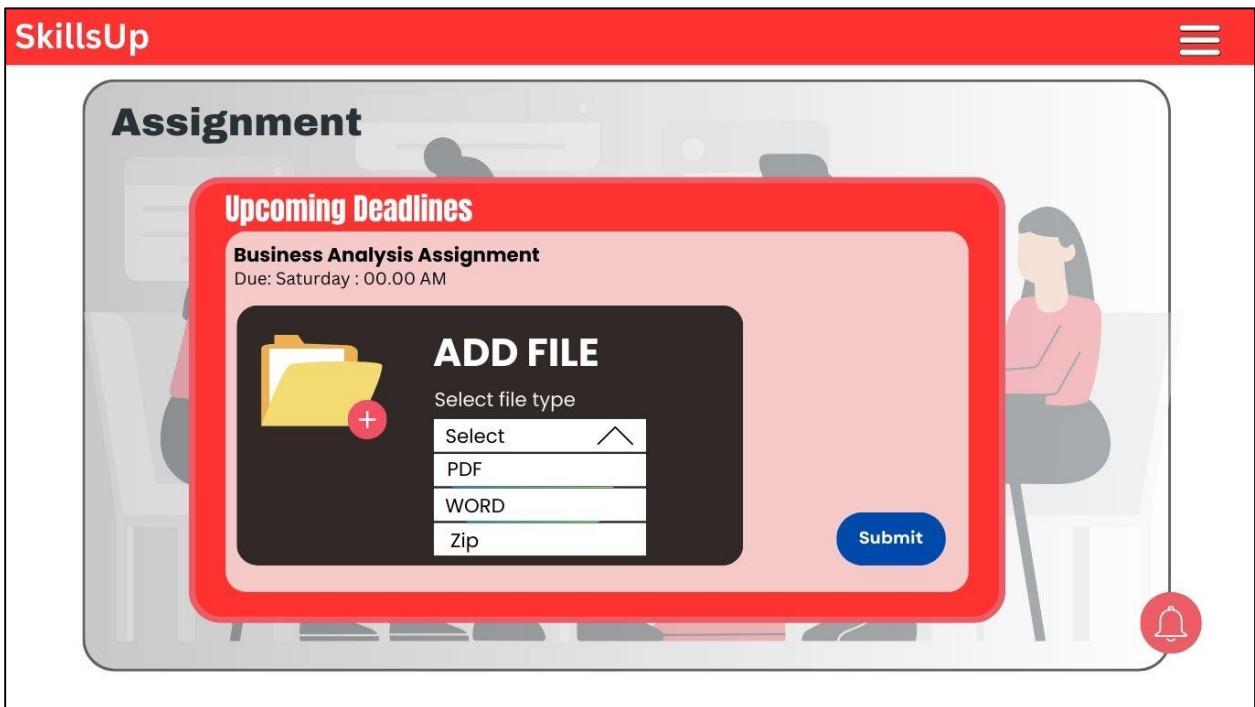


Figure 13: Select file type

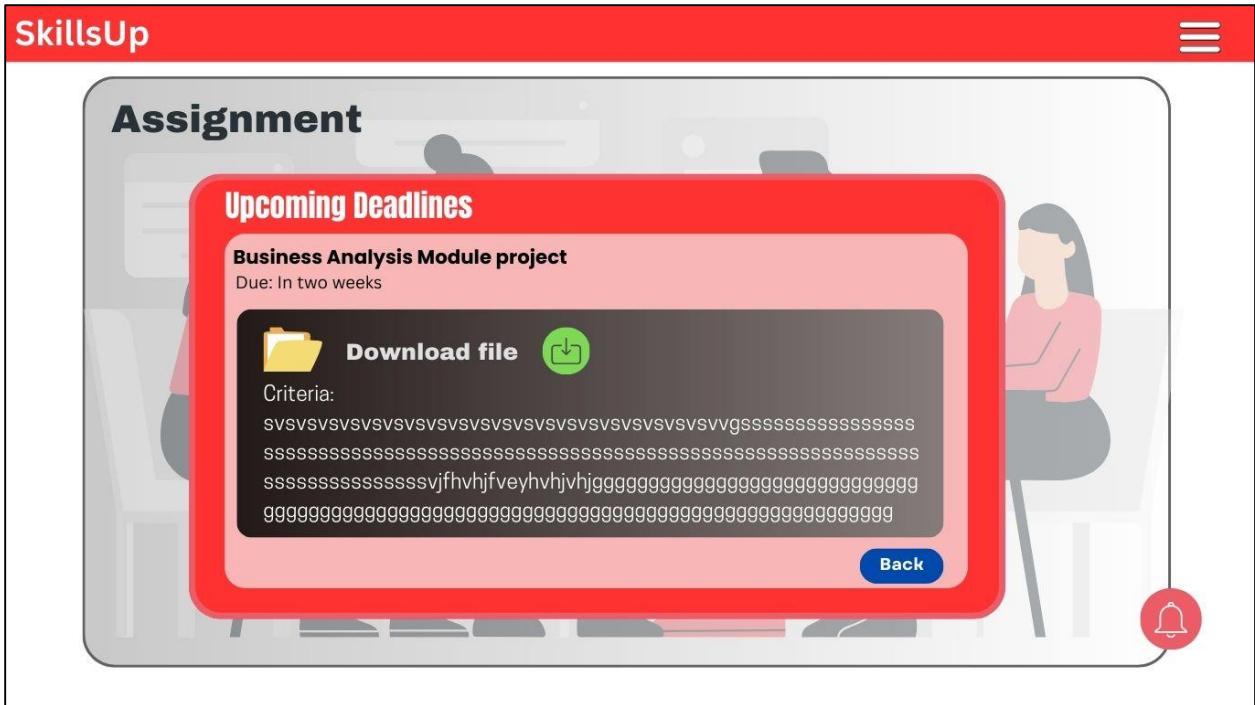


Figure 14: In class assignment display

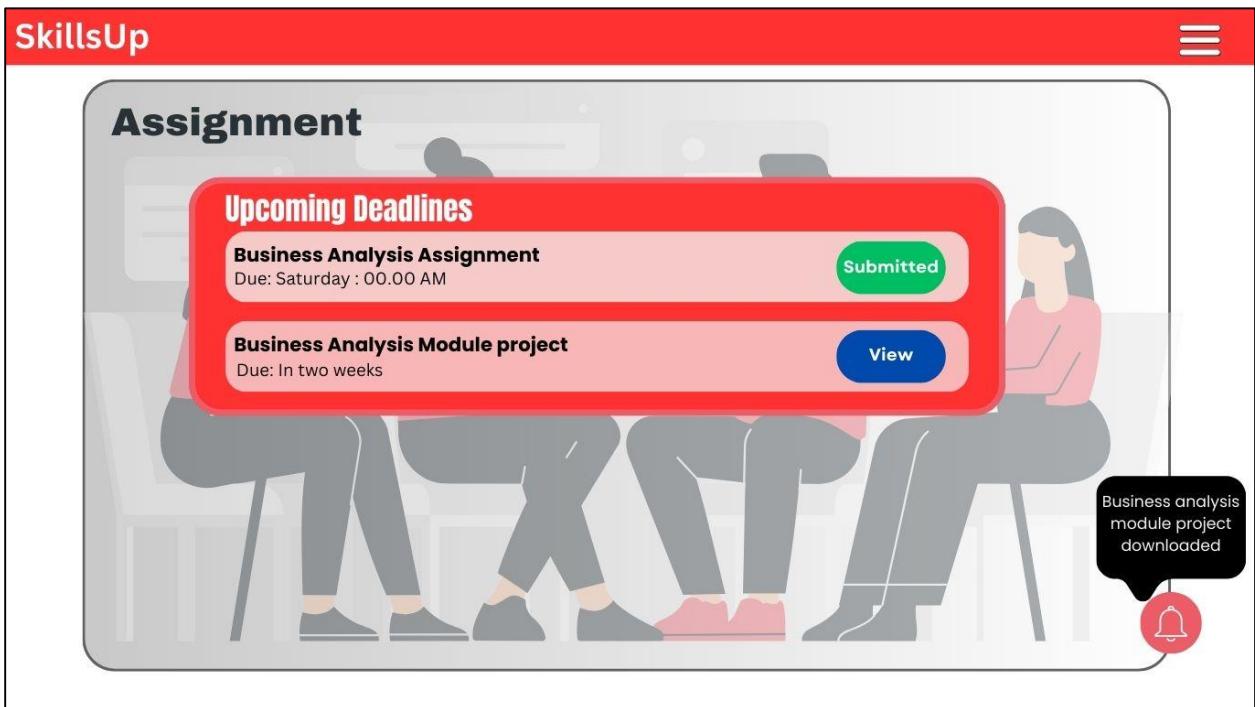


Figure 15: Download successful message

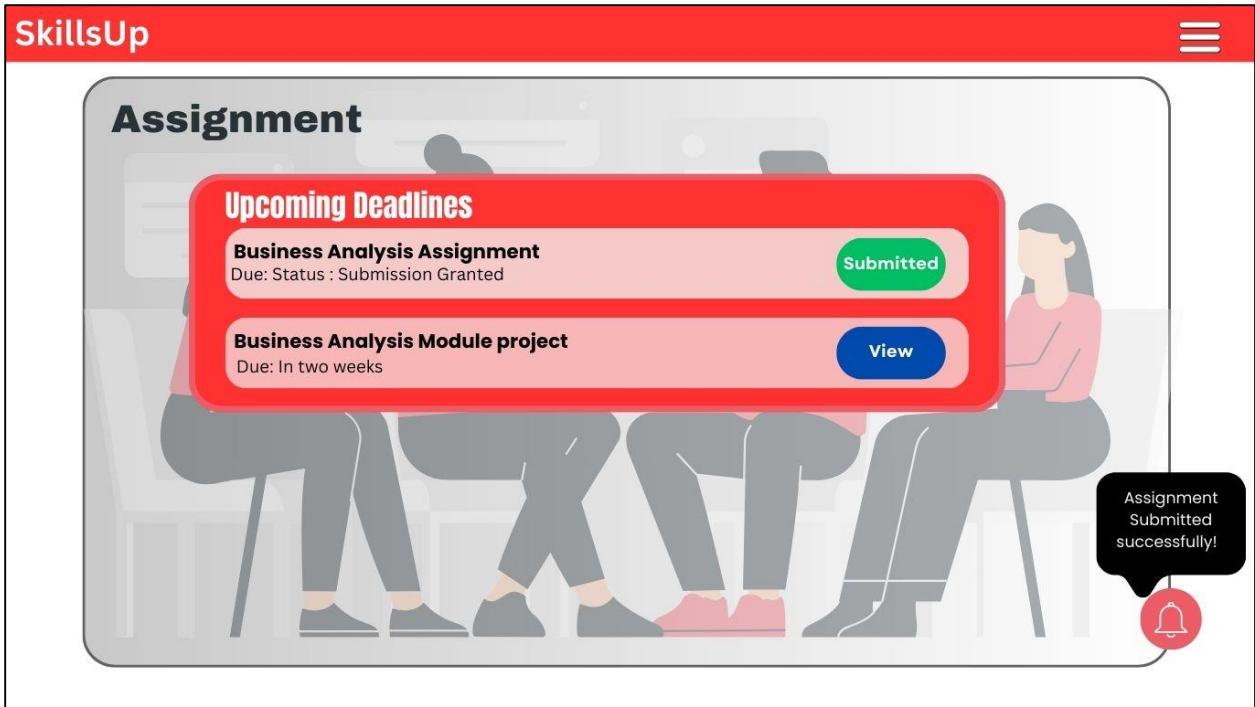


Figure 16: Submission successful message

Assignments

The assignments interface contains:

- A list of upcoming deadlines with module names and submission dates.
- To choose the file type to be submitted.
- A post-submitted confirmation screen saying that a file has been uploaded successfully, such as a PDF document.
- Status of assignments submitted, including project deadlines and information on the modules.

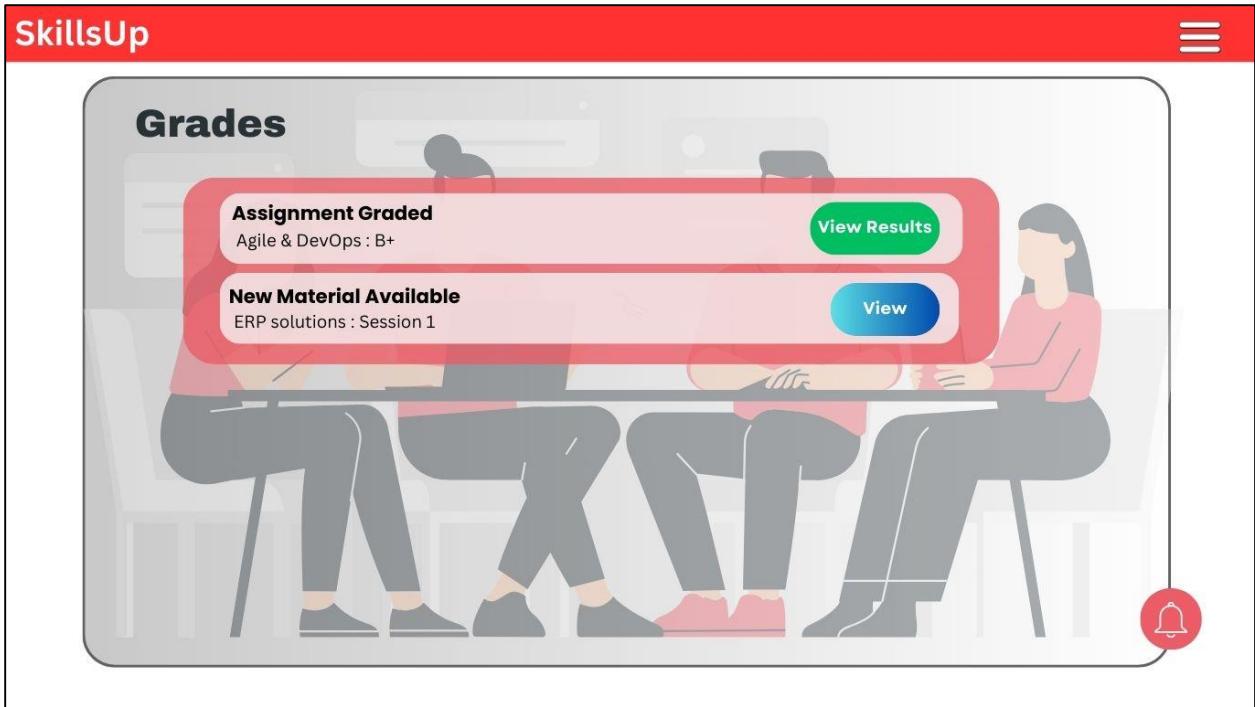


Figure 17: view grades

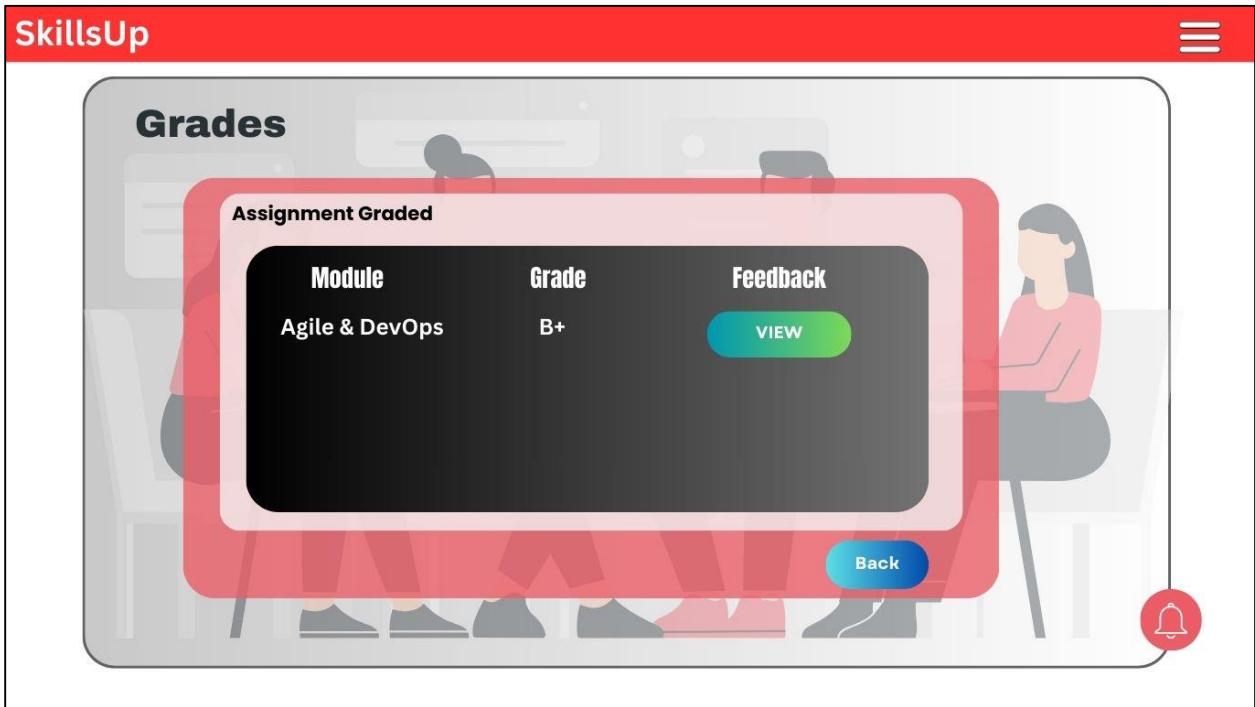


Figure 18: view results

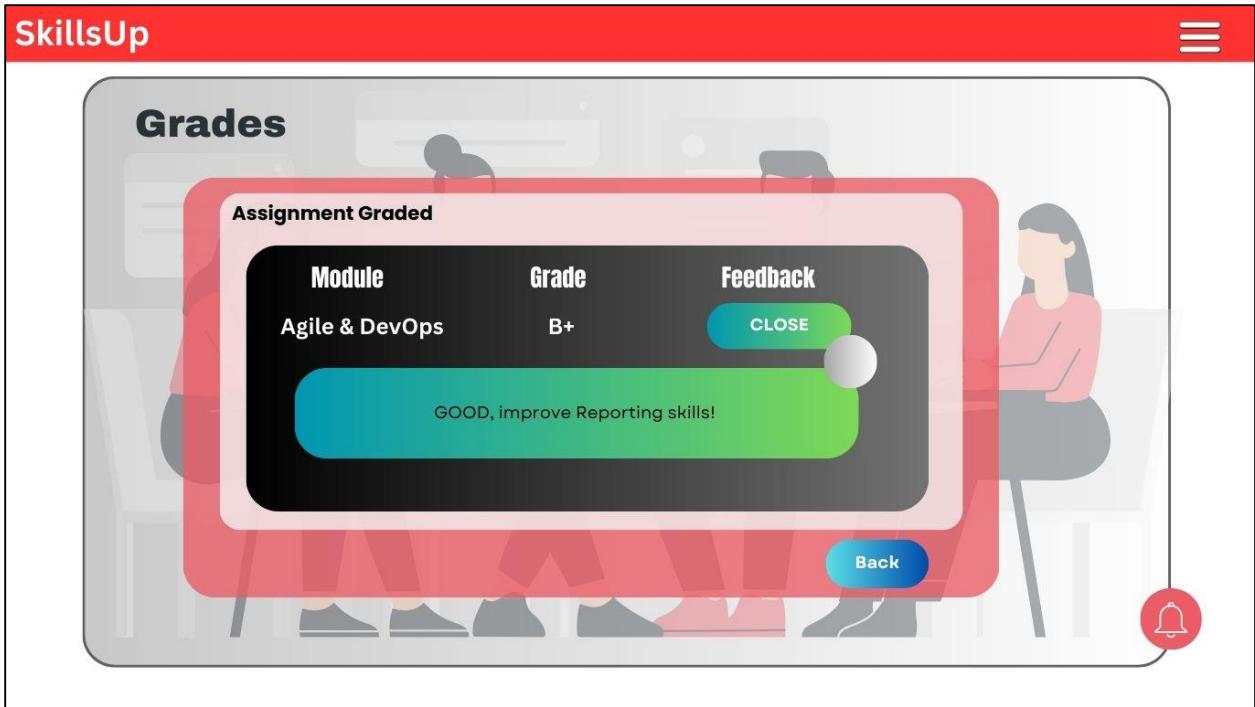


Figure 19: View Feedback

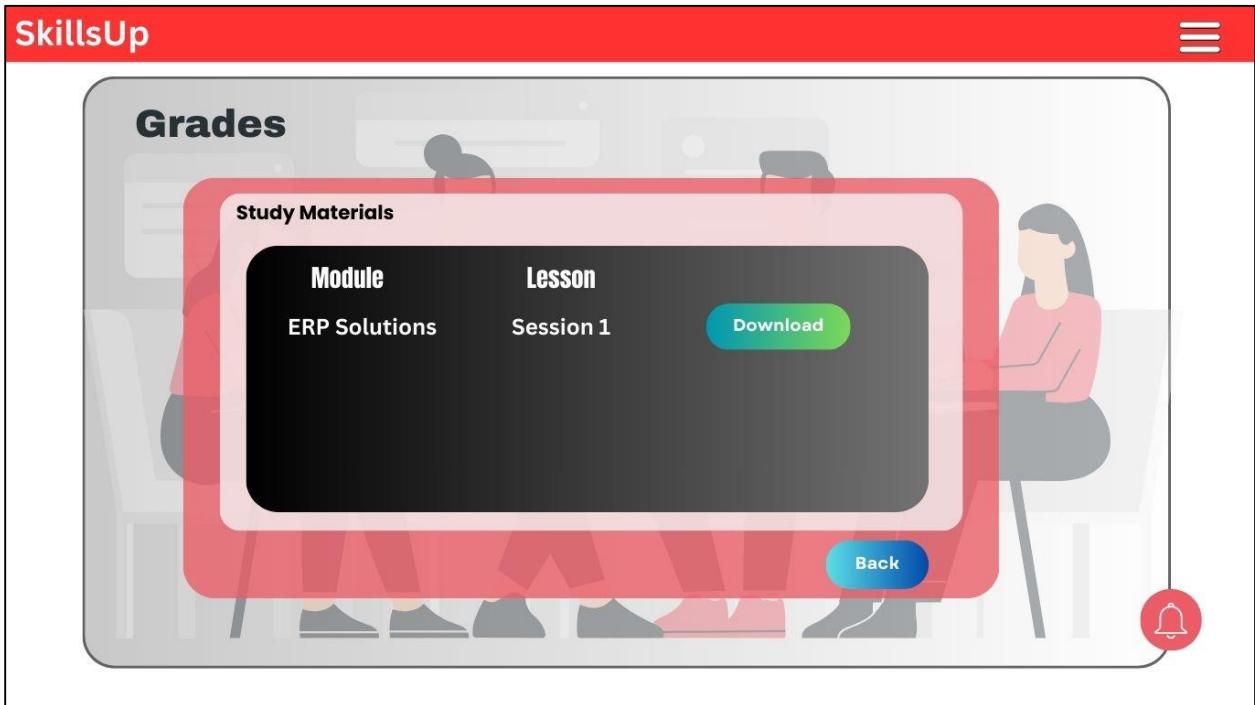


Figure 20: Study material

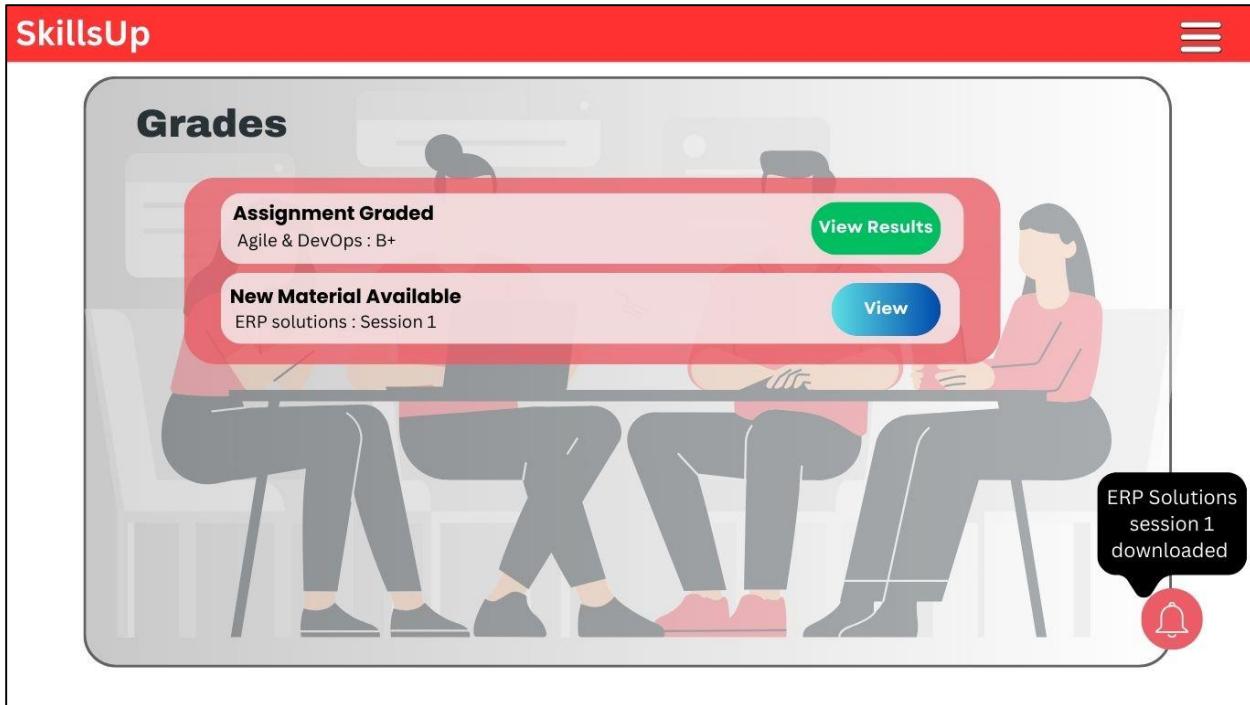


Figure 21: Successfully downloaded notification

Grades

The grades page allows users to:

- View grades of modules and instructors' comments.
- Access comments and downloads of lesson materials.

See grades at the individual module level and select notification preferences

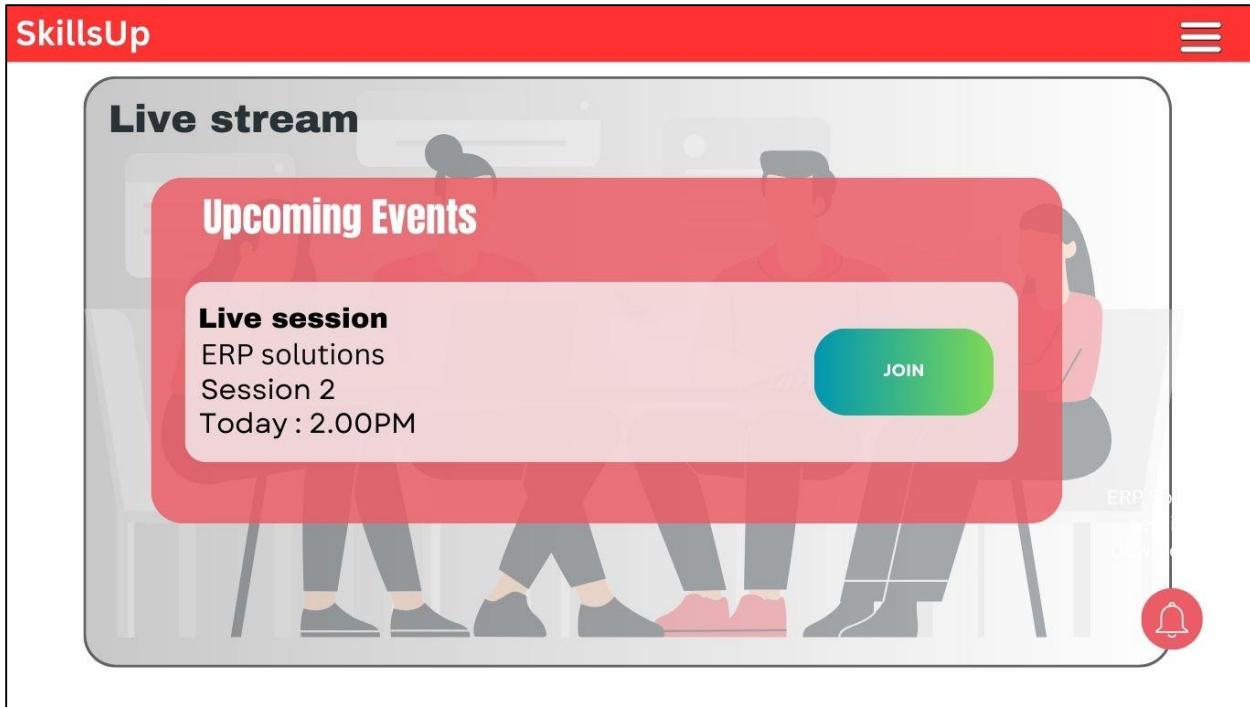


Figure 22: Live session

Live streams

The livestreams interface showcases:

- The schedule of live sessions, including the module name and time.
- A Join button to access a session.



Figure 23: Meeting room for students

Meeting Room

- This screen hosts active live sessions to enable collaboration among users.

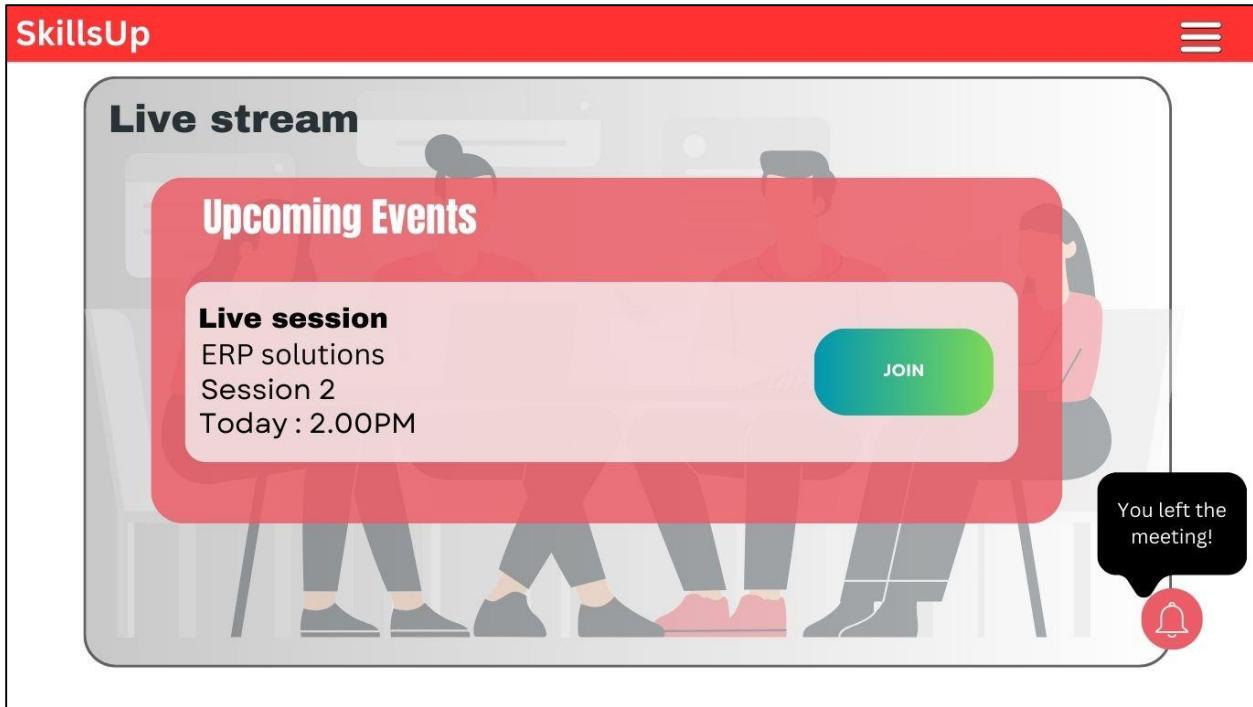


Figure 24: Leave meeting notification

Notifications

Other notifications, such as password reset, submission of assignments, and feedback can be viewed via a bell icon.

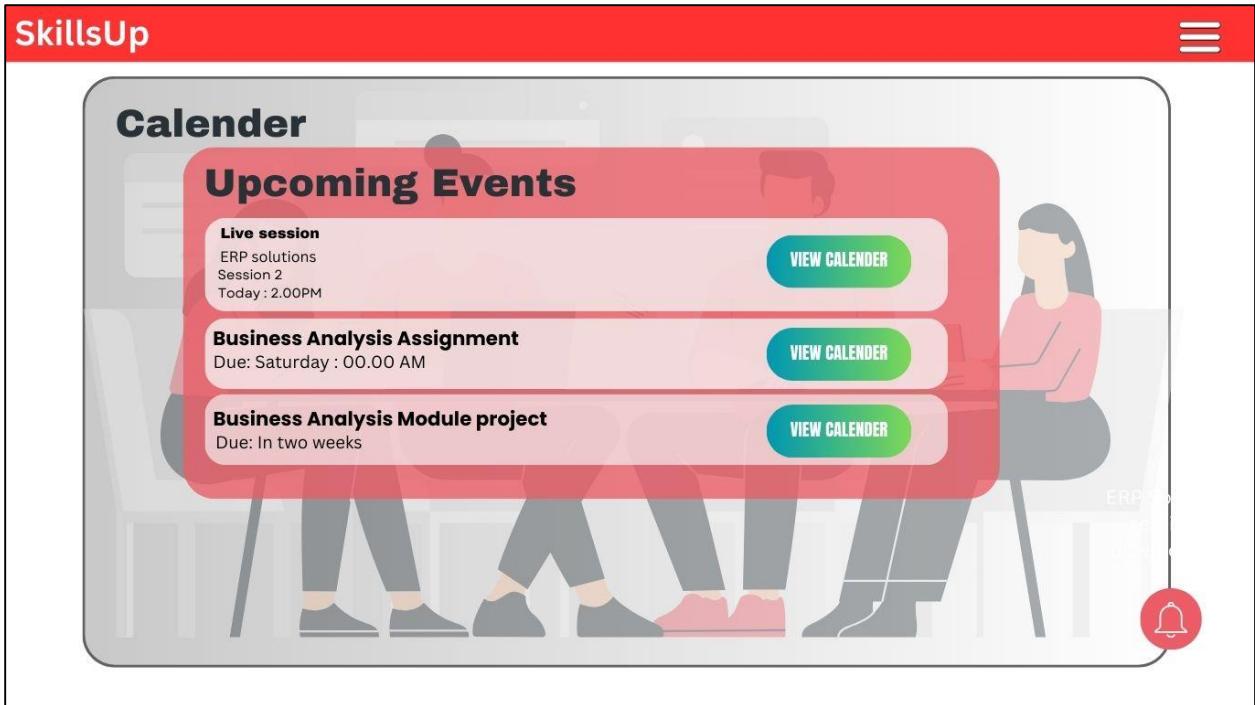


Figure 25: Upcoming events

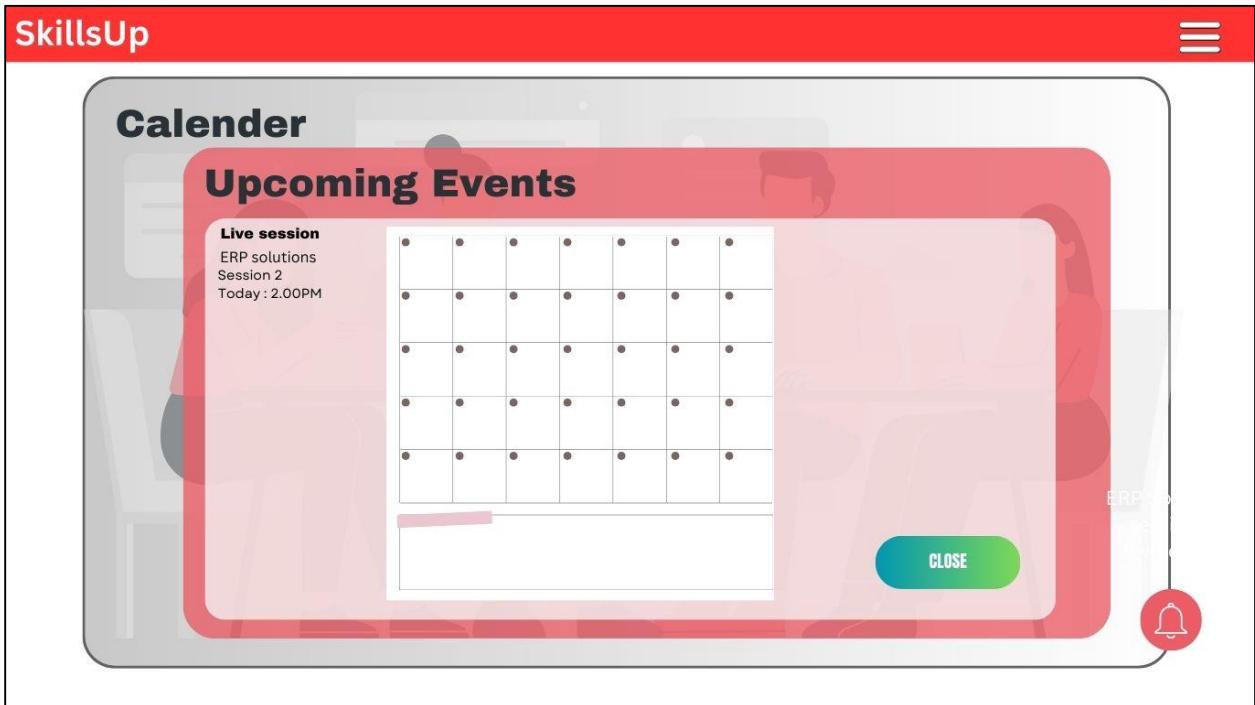


Figure 26: Calendar

Calendar

The calendar interface shows the following:

- Upcoming events and gives a link to see the detailed calendar.
- Event details like module name, date, and time.

Instructor Dashboard and Features

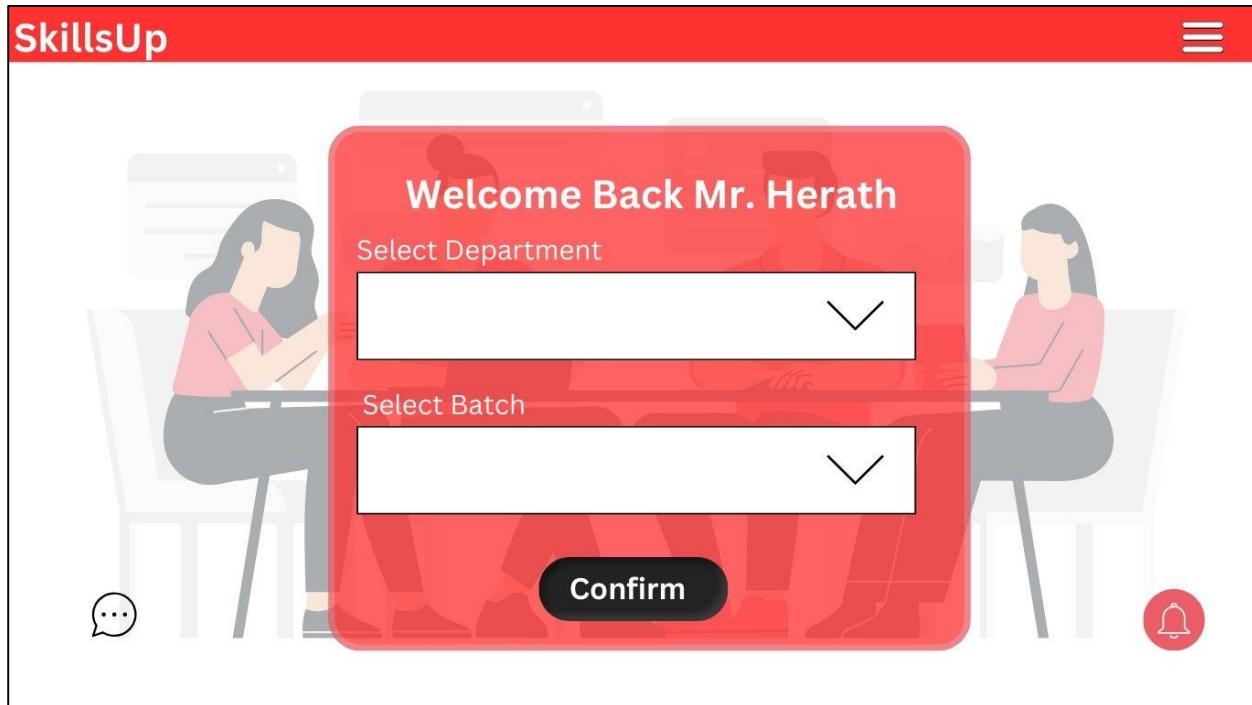


Figure 27: Lecture Authentication



Figure 28: Select Department



Figure 29: Select Batch

The SkillsUp Instructor Dashboard features a red header with the brand name. On the left, a sidebar titled "Quick Actions" lists "Dashboard", "Assignment", "Live stream", "Calendar", "Grades", and "Support", each accompanied by a small icon. Below this is a section for "Upcoming Events" showing a "Live session" for "Introduction to BA Session 2" at "Today : 2.00PM" with a "START" button. The main content area has a background illustration of people walking. It displays "Upcoming Deadlines" for a "Business Analysis Assignment" due Saturday at 00.00 AM, with "View" and "Submission Locking" buttons, and a "Business Analysis Module project" due in two weeks, also with "View" and "Submission Locking" buttons. A third section shows an "Assignment Graded" entry with "Update Results" and a fourth section for "Upload material" with an "Upload" button. A red circular notification bell is located in the bottom right corner.

Figure 30: Instructor Dashboard

The SkillsUp Assignment page for instructors follows a similar design to the dashboard. It has a red header with the brand name. The main content area features a large title "Assignment" and a "Upcoming Deadlines" section. This section lists the same two assignments as the dashboard: the "Business Analysis Assignment" and the "Business Analysis Module project", each with "View" and "Submission Locking" buttons. The background illustration of people walking is present here as well. A red circular notification bell is located in the bottom right corner.

Figure 31: Assignment page for instructors

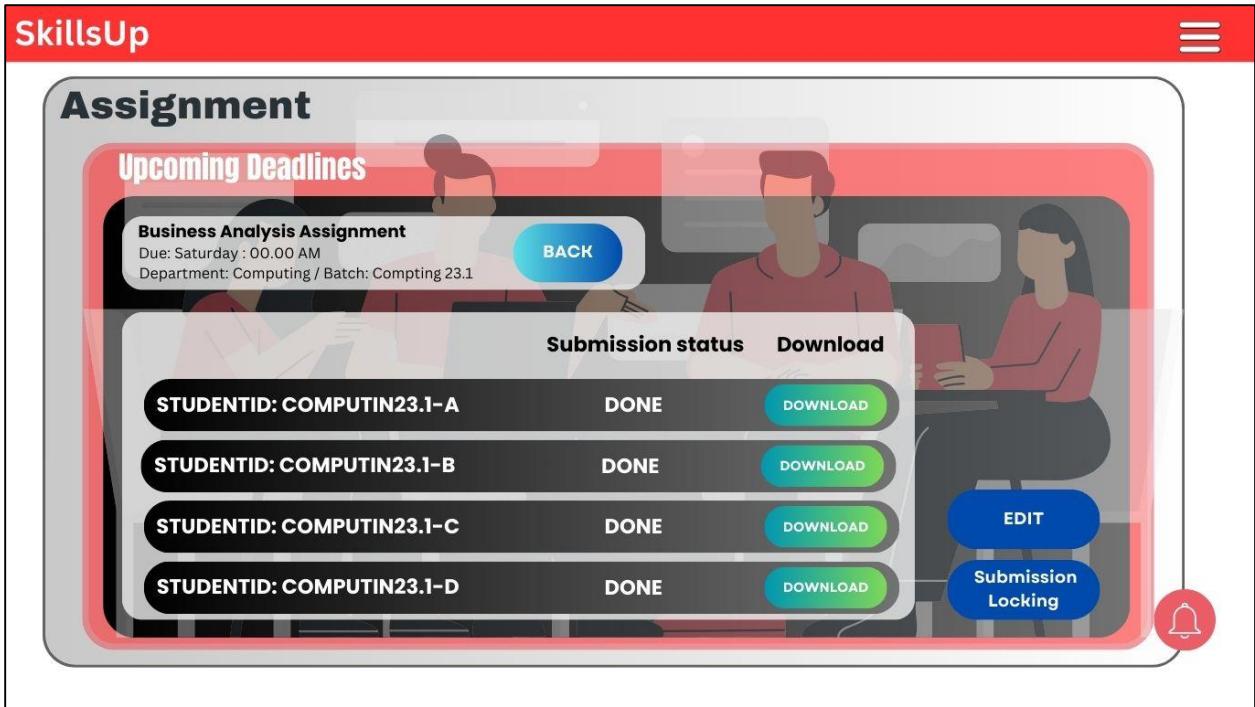


Figure 32: Submission status of students

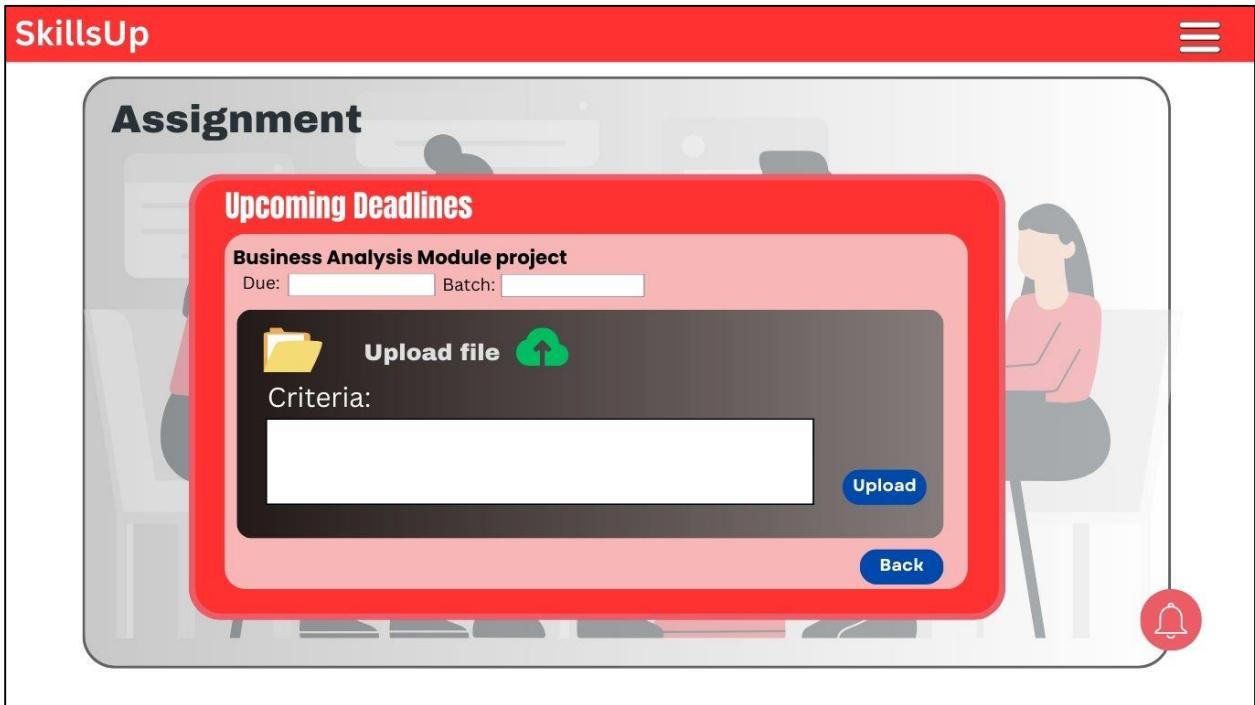


Figure 33: Upload files

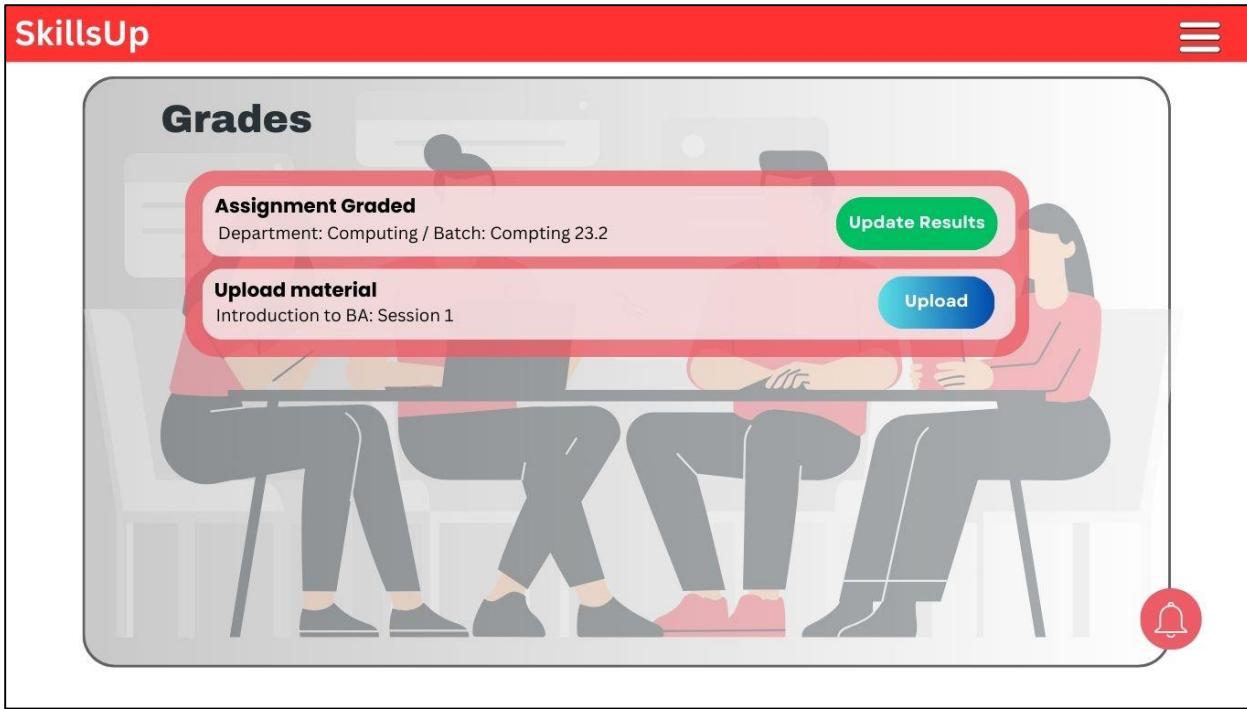


Figure 34: Grades page

This screenshot shows the 'SkillsUp' application interface, specifically the 'Results update' page. It has a similar red header bar with the 'SkillsUp' logo and a three-line menu icon. The background features a blurred image of students in a classroom. A large, semi-transparent dark overlay covers most of the screen, containing a list of student records. The list consists of four rows, each with a black header and a white body. The columns are labeled 'STUDENTID: COMPUTIN23.1-A', 'XXXXXX', and 'UPLOAD'. To the right of the list is a green 'Update Grade' button at the top and a green 'Give feedback' button below it. In the bottom right corner of the overlay, there is a green 'Update Results' button. The bottom right corner of the entire screen also features a small red circular icon with a white bell symbol.

Figure 35: Results update page

The screenshot shows the 'SkillsUp' application interface. At the top, there is a red header bar with the 'SkillsUp' logo and a three-line menu icon. Below the header, the word 'Grades' is displayed in large, bold black font. A central modal window titled 'Assignment Graded' contains fields for 'Department' and 'Batch'. Inside the modal, two student entries are listed: 'STUDENTID: COMPUTIN23.1-A' and 'STUDENTID: COMPUTIN23.1-D'. Each entry includes a grade ('XXXXXX'), an 'UPLOAD' button, and two small red buttons labeled 'CONFIRM' and 'EDIT'. To the right of the modal, there is a green 'Update Results' button. In the bottom right corner of the modal, there is a small red circular icon with a white bell symbol. The background of the page features a blurred illustration of two people working at desks.

Figure 36: Feedback input page

This screenshot shows the 'SkillsUp' application interface, similar to Figure 36 but with a different focus. It features a red header bar with the 'SkillsUp' logo and a three-line menu icon. The word 'Grades' is displayed in large, bold black font. A modal window titled 'Upload material' contains fields for 'Department' and 'Batch'. Below this, a table-like structure lists four batches: 'Batch : COMPUTIN23.1-A', 'Batch: COMPUTIN23.2-B', 'Batch: COMPUTIN24.1-C', and 'Batch: COMPUTIN24.2-D'. Each row has a 'Module' column (containing 'XXXXXX') and an 'Upload file' column with a green 'UPLOAD' button. To the right of the table, there is a green 'Update material' button. A small red circular icon with a white bell symbol is located in the bottom right corner of the modal. The background features a blurred illustration of two people working at desks.

Figure 37: Material upload page

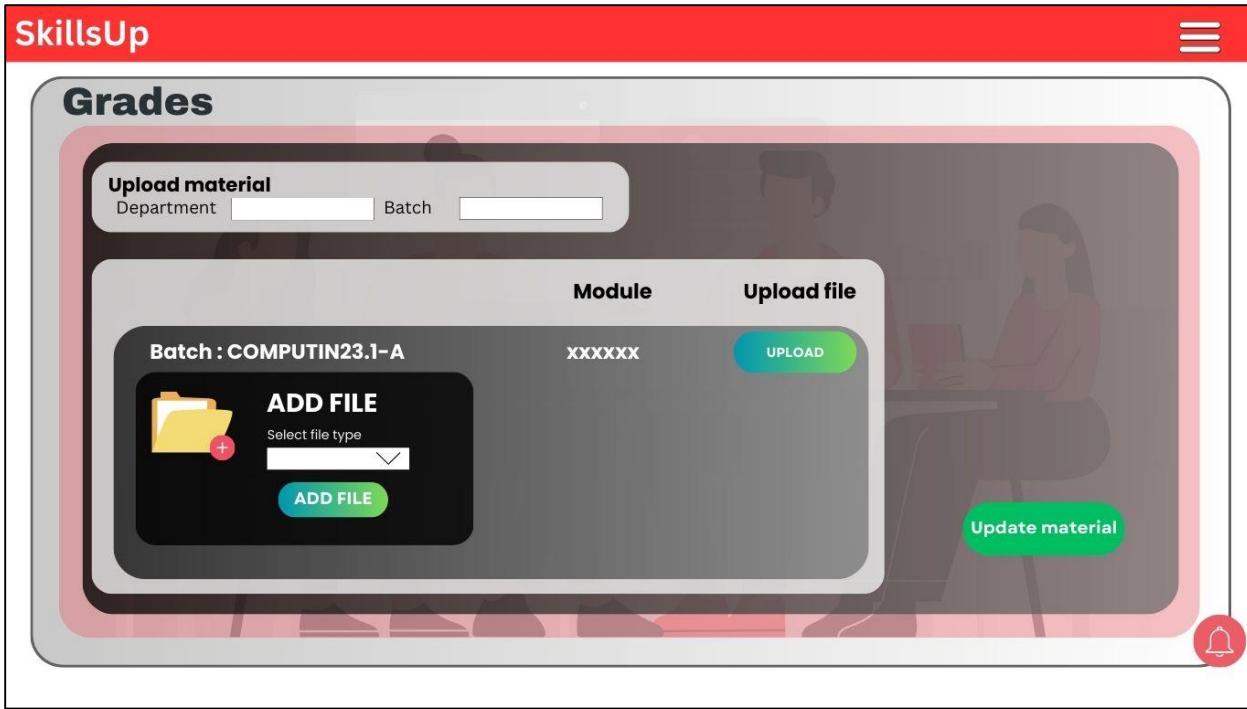


Figure 38: Upload material

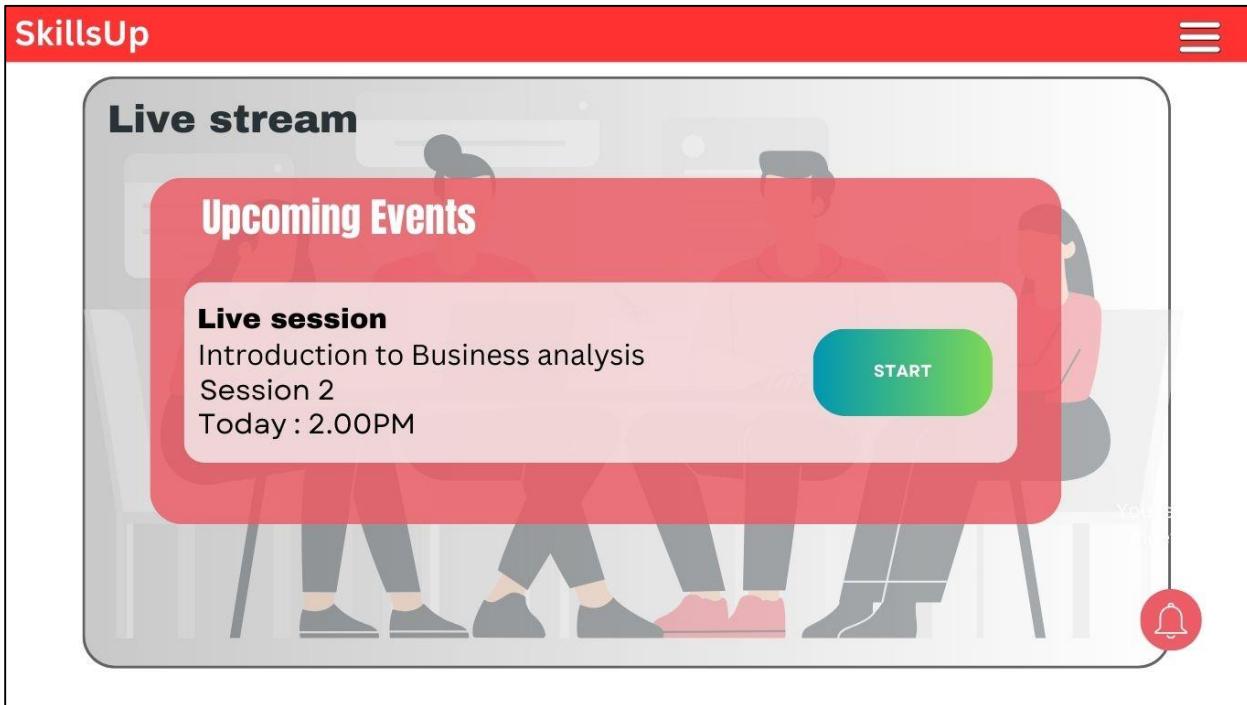


Figure 39: Start live session

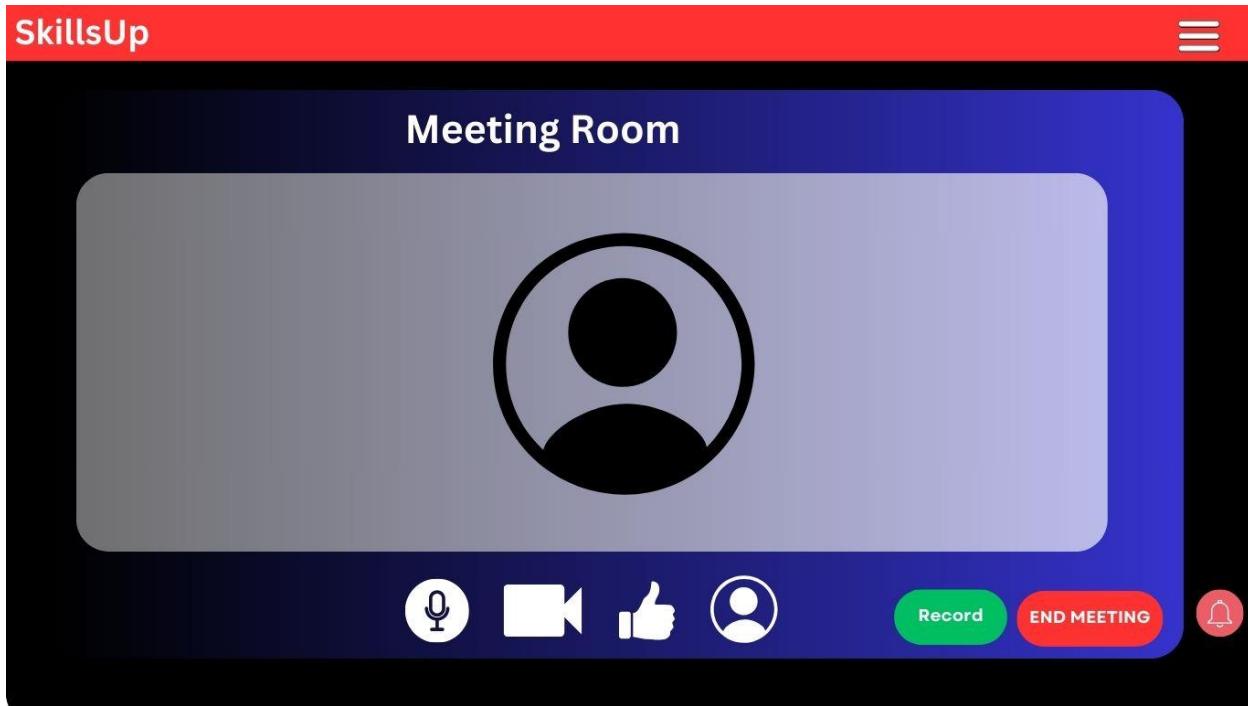


Figure 40: Instructor meeting room

Upon successful login, instructors are taken to a page where they select the name of their Department and Batch from pop-up menus. After selecting these, they are taken to the Instructor Dashboard, similar in design to the student dashboard but with additional features related to teaching.

The instructor can:

- View and Download Assignments: The instructor can view and download assignments submitted by students for review.
- Assignment Management: Lock submissions, deadline edit, grade assignments, and provide feedback to students.
- Conduct Live Class: Seamless start, recording, and ending of live sessions.
- Upload Study Materials: Allow uploading files in PDF, PPTX, ZIP, and Word formats for diversified resource sharing.
- In-Class Assignment Creation: Upload assignment documents and share them directly with students.

- View Calendar: View the calendar regarding upcoming events, deadlines, and sessions-just like students-so that instructors are aware of key academic activities.

Upon every upload or download action, instructors get notified about activity updates inside the LMS. This interface contributes to better academic management and an enhanced teaching experience.

Header

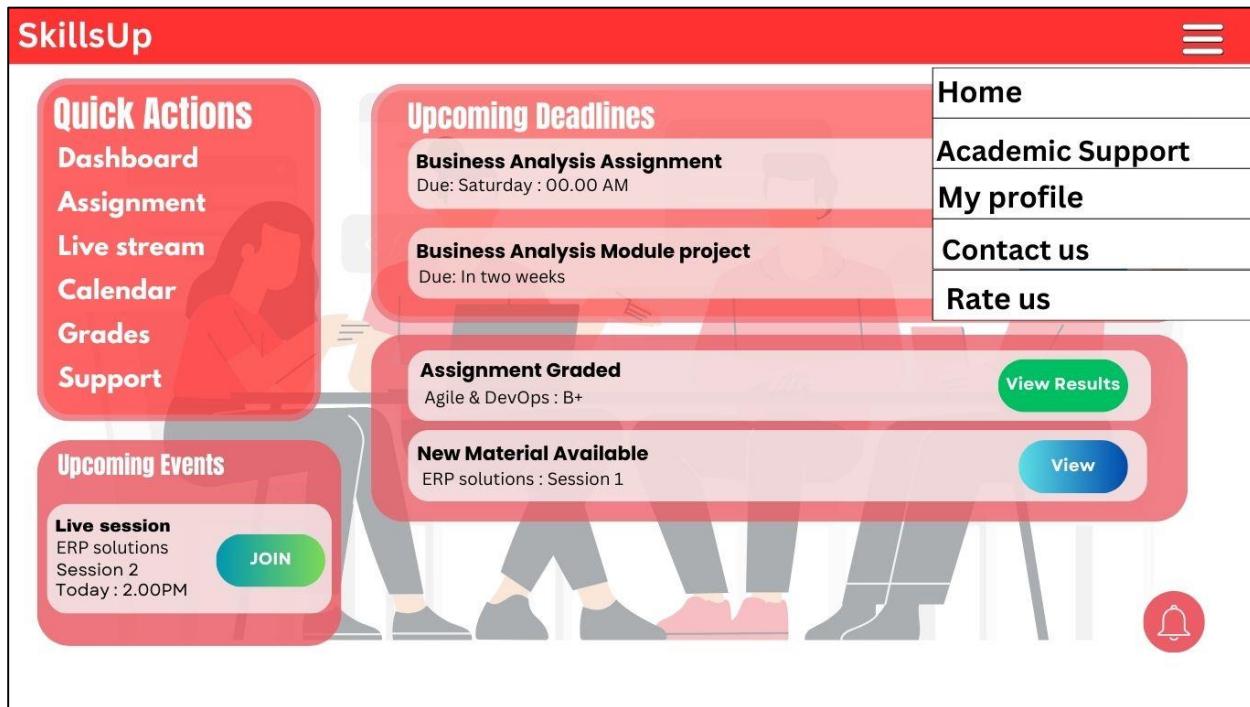


Figure 41: Header hyperlinks

The application header contains several useful links, which can make a number of navigations and user supports easy, such as:

- Home: Provides a route to the main dashboard or landing page of the platform.
- Academic Support: Provides resources, guides, or contact details for inquiries and support of an academic nature.
- Contact Us: This page provides an avenue for users to reach out to the support group for general or technical inquiries by way of contact forms or email.

- Rate us: Allows users to provide feedback regarding the experience on the platform, thereby improving services through ratings or reviews.

These header links are designed to ensure quick access to important sections and user support options, enhancing overall user experience

Profile Display

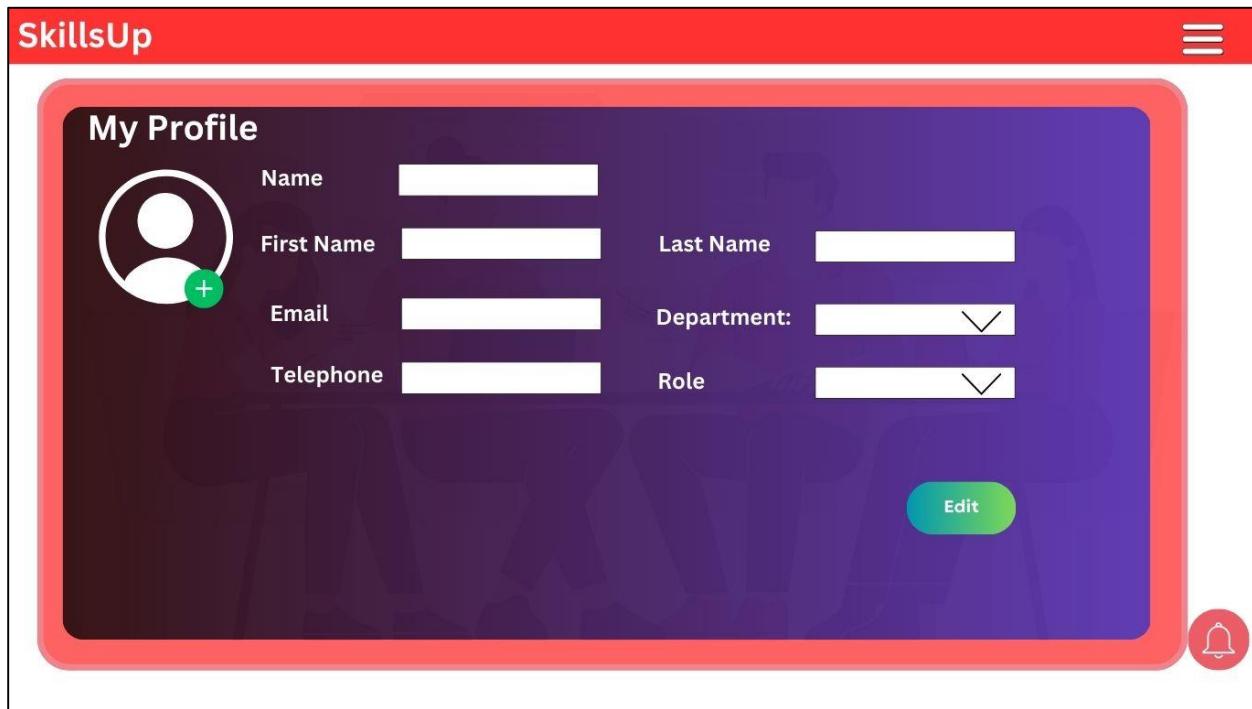


Figure 42: Profile view

The LMS Profile Display offers users a direct view of detailed user information, such as First Name, Last Name, Full Name, Email, Telephone, Department, and Role. A profile picture will be available as well; there is an option for a user to update it. User requests may be put forward for field edits, like changing their email or telephone number, upon admin verification. An **Edit Profile button allows the user to request changes; an admin is required to review and approve changes before applying updates. This ensures information management accuracy, maintaining the integrity of the system and accountability of the users.

Admin panel

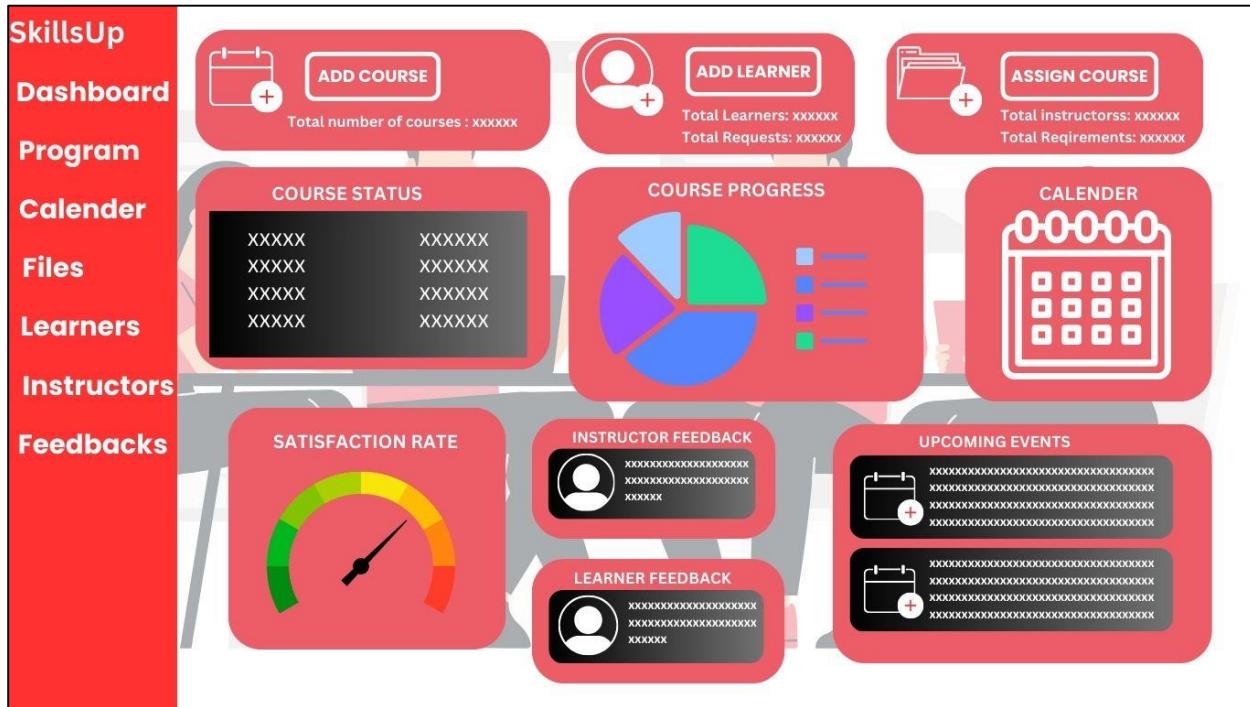


Figure 43: Admin panel

The LMS Admin Panel is a simplified interface built for easy course and learner management. This provides the facility to add courses, define their details, and assign them to learners. Admins may add learners, track course status, and monitor course progress with dynamic visualizations. A calendar module shows upcoming events, deadlines, and schedules. The system also captures and analyzes student and instructor feedback, showcasing satisfaction rates across graphical reports. A sidebar menu immediately offers navigation, allowing the user to easily access course assignments, track progress, and even schedule events. This intuitive design ensures seamless operations that enhance the learning experience of all users.

Chapter 6: Process Model

6.1 Current Diagram & System

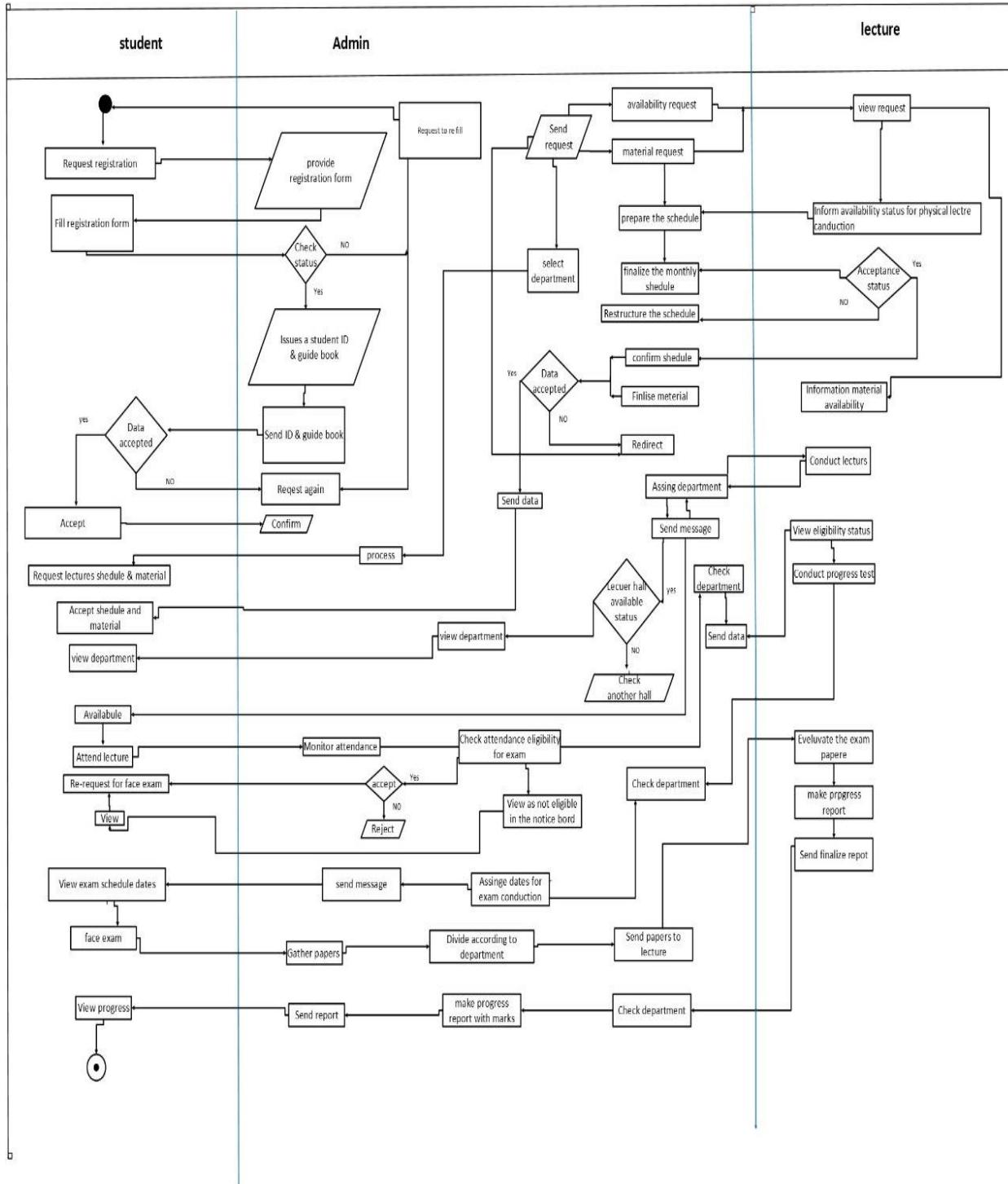


Figure 44: Swim lane for current status

The diagram depicts the manual workflow process of student registration, course scheduling, and lecture management at an educational institution. The workflow involves three main roles: student, admin, and lecturer.

1. Student:

- Requests registration and fill out the registration form.
- Submits documents, requests lectures and materials, attends lectures, views exam schedules, takes exams, and views progress reports.

2. Admin:

- Provides and processes registration forms, issues student IDs and guidebooks, and sends requests to departments for material and schedule preparation.
- Confirms student registration, monitors attendance, manages department assignments for lectures and exams, and communicates progress and reports.

3. Lecturer:

- Views requests and availability for lectures, prepares and finalizes schedules, confirms material availability, and conducts lectures.
- Checks student eligibility for exams, conducts progress evaluations, and prepares final reports.
-

The process is highly interconnected, requiring constant communication and data exchange between students, admins, and lecturers, and involves multiple steps for approval, confirmation, and reassignment as necessary.

6.2 Pain Points

1. Manual Form Preparation and information Management:

Issue: The continued dependence on paper forms and manual data entry processes contributes to the increased chances of errors, data loss in the management of students', course's schedules, and progress reports.

Solution: Use a computerized LMS for effective Data Entry, security of students' files and schedules creating or manipulation over the net.

2. Lack of Real –Time Communication:

Issue: This process requires no less than three steps and manual communications from students, admin and lecturers which results to delays and poor communication.

Solution: Include a communication tool to the LMS for Updates, Notifications and messaging, for all concerned parties.

3. Lengthy and painful approval levels:

Issue: Too many levels of approval for registration, approval of course materials and schedules take a lot of time and produce inefficiencies.

Solution: Approaching approval processes from an automated point of view can reduce time and increase efficiency for registration and course schedule approvals when done through the LMS.

4. Inadequate access to information:

Issue: Students and lecturers are stuck in a physical location and need to check records to obtain information deterrent to access and flexibility.

Solution: Allow remote access to course content, schedules and reports through the electronically controlled learning environment, anywhere and at any time.

5. Attendance and Progress:

Issue: Attendance of students and Reporting of Students' Progress are both done manually and therefore take a lot of time and most of the time is inaccurately done.

Solution: We will install automated attendance tracking as well as monitoring the progress on the LMS and provide accurate and real-time data.

6. Exam Scheduling and Management:

Issue: A complex and slow method of scheduling exams and assigning tasks is the cause of this problem and it does not allow teachers to work efficiently.

Solution: Utilize LMS as a tool to automate testing scheduling, notification, and managing thus ensuring the smoother operation of the system.

7. Document Handling:

Issue: The physical handling of documents for registration, material requests, and reports can be cumbersome, erroneous and wasteful.

Solution: Within LMS, digitize document processing so all documents can be submitted and stored electronically, hence securing and organizing them.

6.3 Improved Processes

1. Automated Registration and Document Handling:

Current State: Manual form filling and document submission.

Improvement: Develop an online registration system wherein registrants can upload digital copies of the documents, and they get an ID automatically.

Solution: The students register via the web, upload the required documents, and get the ID via a digital channel which makes the process less than manual and eliminates errors.

2. Real-Time Communication and Notifications:

Current State: Delayed communication via manual processes.

Improvement: Make use of the LMS to perform real-time notifications and updates to students and teachers.

Solution: Create a web-based system for messaging and notifications that lets students and lecturers know about the changes in the schedule, material availability, and all other updates.

3. Dynamic Scheduling and Resource Allocation:

Current State: Manual scheduling and material preparation.

Improvement: Utilize the LMS to allow dynamic course schedules and real-time resource distribution.

Solution: Teachers, by inputting their availability, are directed automatically by the system, in turn, informing the students and coordinating the material requests using the latest data.

4. Centralized Attendance and Progress Tracking:

Current State: Manual attendance checking and progress tracking.

Improvement: Link the manual attendance system to the digital attendance systems and automated progress tracking.

Solution: Use QR code or biometric attendance methods that connect with the LMS and give students and teachers dashboards to track their progress in a real-time manner.

5. Dynamic Scheduling and Resource Allocation:

Current State: Manual scheduling and material preparation.

Improvement: Equip with dynamic scheduling and instant allocation of resources, powered by the LMS.

Solution: Instructors can enter their convenient time slots, and a smart algorithm automatically arranges classes, notifies students, and coordinates material requests which are based on the current information.

6. Centralized Attendance and Progress Tracking:

Current State: Manual attendance checking and progress tracking.

Improvement: Incorporate digital attendance systems and progress tracking automatically.

Solution: Employ either QR code-based or biometric attendance systems and connect them with the LMS while offering both students and teachers dashboards to enable them to view progress in real-time.

6.4 Future State Diagram

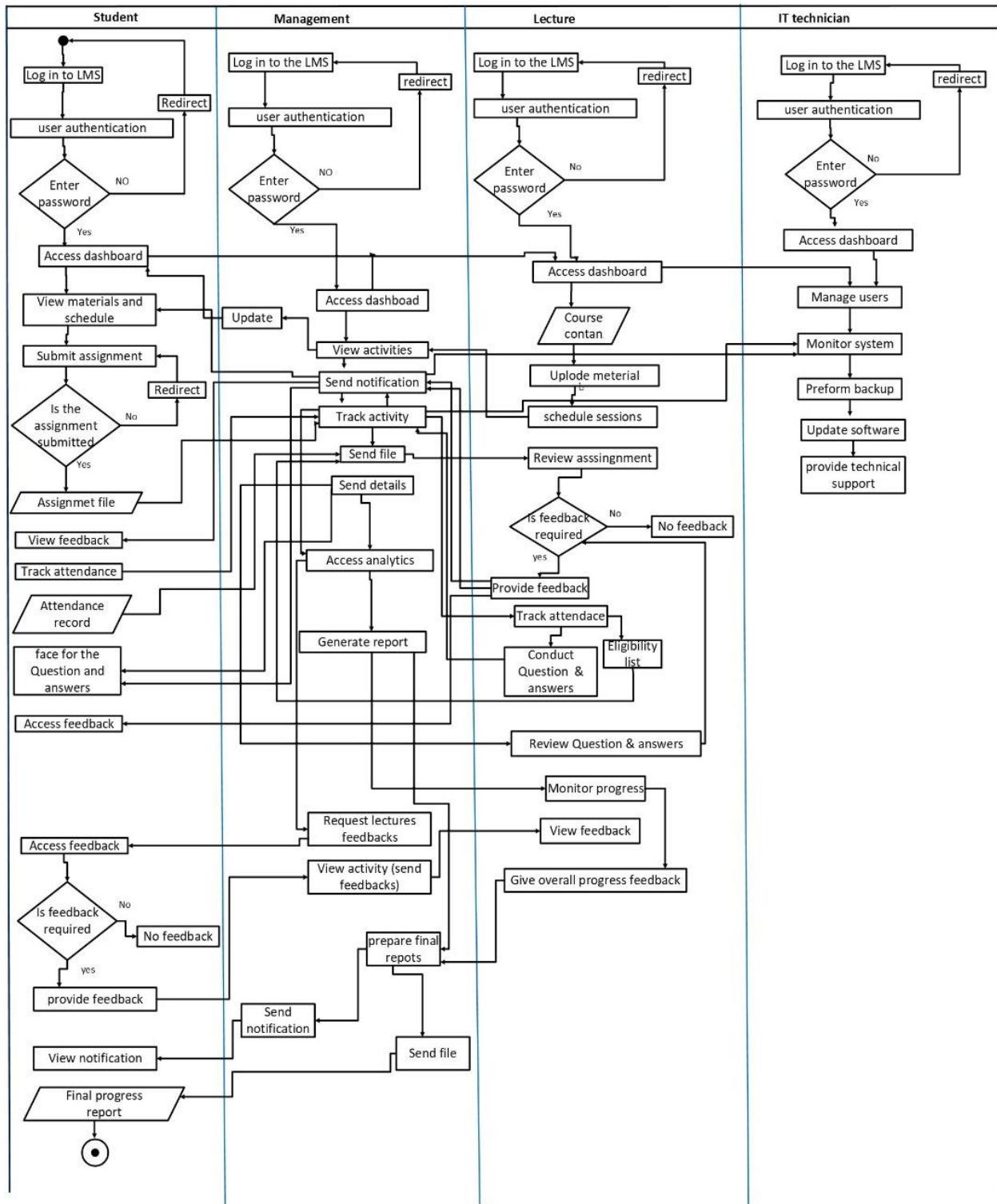


Figure 45: Swim lane for desired state

Chapter 7: Solutions Identifications

7.1 Potential Solutions

1. **Custom-made LMS:** Very high custom capabilities but expensive.
2. **Off-the-shelf LMS:** Moderate expense, low customization.
3. **Hybrid Approach:** Moderate customization of preexisting solutions to achieve the right construct.

7.2 Feasibility Study

1. **Custom-made LMS:** Most expensive option, longest time to develop, is highly customizable.
2. **Off-the-shelf LMS:** Moderate price, fast set up.
3. **Hybrid Approach:** Medium price, longer developmental time and number of features included.

7.3 Recommendations

- **Hybrid Approach:** This would ensure that there is customization of existing solutions so that the balance is effective.

Chapter 8: Risk Analysis

8.1 Potential Risks

1. Technical Issues

- Downtime: System outages eliminate the ability to learn and manage the administrative processes thus, users get frustrated.
- Data Breaches: Unauthorized access to sensitive data means personal information can be compromised which in its turn leads to privacy abuse and legal confrontations.
- Compatibility: It can be hard to make sure the LMS works on various devices and operating systems with no issues.

2 User Resistance

- Reluctance to Adopt New Technology: Students, instructors, and staff may balk at moving from a manual system that they are familiar with to a new digital platform, this may in turn lead to low participation and restricted usage of the LMS.

3 Cost Overruns

- Within Budget: Surprises such as unforeseen expenses during the development, implementation, and maintenance of the LMS may frame financial strain and project delays or scaling back.

8.2 Mitigation Risks

Technical Issues

Impact:

Technical problems can cause serious disruptions to educational activities, loss of data, and decreased trust from users in the system

Mitigation Strategies:

Regular Maintenance: Schedule regular system maintenance and updates to ensure smooth operation and minimize downtime.

Robust Security Measures:

Use strong encryption, firewalls, regular security audits, and so on as defenses from data breaches.

Thorough Testing: Pass a test that can be performed over multiple devices and platforms to detect interactivity as well as incompatibility prior to deployment.

Regular Maintenance:

Set up a plan for periodic system upkeep and firmware upgrades to both guarantee operational peace and cut downtime to a minimum.

Robust Security Measures:

Incorporating very strong encryption, firewalls, and frequent security audits are the usual procedures in keeping data secure.

Thorough Testing:

Run tests on different devices and operating systems to ensure that software/games/hardware will work with your hardware/software and thus solve problems before they arise in the field.

User Resistance Impact:

The opposition of the users toward the adoption of the LMS will cause a failure in its application, decreasing its value and the return on investment.

Mitigation Strategies: Comprehensive Training: Conduct in-depth training for all the employees, so that they know the new system and its benefits and get them ready for it.

Continuous Support: The administrator should be able to always provide technical support and resources to the users so that they can easily navigate the LMS and solve their problems immediately.

Phased Implementation: Pilot the LMS with a few selected units in your organization first. Then, gradually add other units and the system will give you the needed input to adjust.

Cost Overruns Impact:

The budget overruns may put a strain on financial resources, which results in a project slow down, and the project may also be scaled down on its planned features or functionalities.

Mitigation Strategies: Strict Budgeting: Creating a comprehensive budget plan consisting of all the possible costs, such as development, training, and maintenance.

Contingency Planning: To create a contingency fund to cover unexpected expenses that may arise during the project.

Cost Monitoring: Adopt regular cost monitoring and reporting mechanisms to capture expenses against the budget and point out any discrepancies at an early stage.

Chapter 9: Change Management Strategy

9.1 Implementation Strategy

Phase 1: Pilotage with One Group to Enable Coordination Voices

- Description: In the first phase of implementation, the LMS will be deployed to the selected users of the institution, instructors, and students. This pilot group will use the system for specific times and their experience will be documented and feedback collected.
- Objective: The primary intention of this phase is to test the process, gather input and feedback from the users, and correct or modify anything before a larger rollout. This technique, on the other hand, is to recognize the trouble spots one by one and thus to perfect the system.
- Activities:

Is there a need to select a wide variety of pilot groups to target diverse user roles and departments?

How many training sessions should be conducted to prepare the pilot group?

Use of surveys and interviews as well as usage information are common.

Phase 2: Full Scale Deployment with Ongoing Assistance

- Description: Drawing insights from the pilot phase, the institution will implement the LMS in all departments. Extensive training of the users is provided as well as putting in place support mechanisms to help the users during the transition.
- Objective: To make sure that customers do not encounter any problems with the new system by supplying them with the necessary tools and help they need to do so comfortably.
- Activities:

LMS is to be deployed to all the students, instructors, and administrative staff of the institution.

The students should be taught by means of workshops, tutorials, and webinars.

Introduce a new help desk along with a support team in order to meet the customers' needs and solve their problems when they occur.

Phase 3: Review and Optimization Based on Feedback and Performance Data

- Description: On the full-field behavior, the monitoring and evaluation will be that the system's quality and users' satisfaction are assessed. The feedback received will be used to detect places for improvement.
- Objective: To polish and perfect the LMS by solving the recorded problems and being the buffer of ideas, thus, improving the learning experience.
- Activities:
 - Continuously review the performance, engagement, user feedback data, and usage data of the system.
 - Updating the system according to the information obtained and executing the proposed improvements will be implemented.

Output is also conducted by means of initially updated/refreshed training, as well as by providing, in connection with these needs,

Thoroughly inspect the adequate, appropriate, and useful nature of the usage data collected, the proper provision of performance metrics, and the human user feedback.

Make the updates and enlargements of the system in this way according to the information collected.

Let the participants be refreshed and updated regularly according to their needs.

9.2 Strengths

Enhanced Learning Experience

- Description: The LMS forms a very safe and impactful environment for learning processes. It provides multiple functions, namely, multimedia content, interactive quizzes, and forums.
- Advantages: Students can participate in different areas of study that are presented in the form of such things as a presentation, simulation, or narration, which are capable of covering different learning styles and increase retention and comprehension.

Greater Accessibility and Flexibility

- Description: Course content and resources henceforth are available virtually. This will enable students to work and learn from everywhere.
- Advantages: The flexibility of this program allows one to follow a different learning schedule with even more students that may have other commitments, such as work or family.

Improved Tracking and Analytics

- Description: The learning management system offers comprehensive information about the student's performance, course participation, as well as progress tracking.

- Benefits: Instructors and administrators can utilize this data to determine at-risk students, modify teaching approaches to the individual's preference, and regularly improve the course materials and teaching methods.

9.3 Weakness

Initial Resistance from Users

- Description: Users may be hesitant to use the new LMS because they are comfortable with the existing processes, and they hesitate to use the new technology.
- Impact: Resistance can be the main hindrance in the adoption process and the same might even reduce the effectiveness of the LMS implementation.

High upfront costs

- Description: Users may be reluctant to adopt the new LMS due to the processes they have already been using and due to the fear of technology.
- Impact: Not conforming to the new LMS and thus slowing down the processes and minimizing the LMS's effectiveness are the results of user resistance.

Ongoing Maintenance Needs

- Description: The LMS will necessarily require the constant, uninterrupted, and consistent development of the entire system such that it is able to run efficiently.
- Impact: Long-term Maintenance might be very expensive and will involve not only the longest time and space but also require dedicated IT staff and financial resources.

9.5 Overcoming Challenges

Effective Communication and Training

- Description: Clear communication about the benefits and features of the LMS, coupled with complete extensive training programs, can help reduce resistance among users.

- Strategy: Conduct workshops, tutorials, and support sessions to build the user's confidence and competence in using the new system.

Seeking External Funding and Partnerships

- Description: Containing high upfront costs, the institution can track down external funding sources (e.g. grants) and develop partnerships with the technology providers or the educational organization.
- Strategy: Accountability coming from grants to open up foundations, to join tech companies, and to give them cheaper things to make sponsorships with the industry partners easier.

Establishing a Dedicated Support Team

- Description: A devoted team of IT professionals and support staff can solve technical problems, keep the system up and running, and offer users the support they need.
- Strategy: Hire and take care of the development of a support team who, daily, operate the platform effectively and are capable of dealing with user questions, system issues, and troubleshooting tools.

Chapter 10: Project Closure

10.1 Review of outcomes

Evaluate the Achievement of Project Goals

- Evaluate the project in regard to whether it has reached the goal set in the objective and things to be done before it started. This part of the task equals the actual results against the root project goals like more accessibility, better learning experiences, and more accurate tracking and analytics.

Collect Feedback from Stakeholders

- Communicate with all project stakeholders, including students, instructors, administrators, and IT staff, and obtain their insights and opinions on the project's success and suggestions for improvement.

Document Lessons Learned and Best Practices

- Write the report of the lessons learned from the project, spelling out both of the successful and the problems that have been overcome. Register the best practices that can be used for future projects.

10.2 Continuous Improvement

Regularly Update the Platform Based on Feedback and Advancements

- Continue with the LMS through a process of user feedback and technology update to employ accumulated user responses in the process. It helps a platform to remain applicable and functional.

Conduct Periodic Training to Maintain Proficiency

- Guarantee that all users will remain competent in the LMS by holding continuous training sessions. This way the students can explore all the platform's features and keep track of the new ones that are going to be introduced.

Establish a Feedback Loop for Ongoing Enhancements

- Develop a well-structured system for consistently obtaining and implementing user feedback. This practice highlights the new requirement for development as well as helping to address the issues if there are any that might arise in the future quickly.

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