

Digitizing Academic Workflows with EDMIT: A Scalable Platform for Verification, Registration and Academic Management

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Abstract

This paper presents a digital transformation initiative aimed at enhancing the academic administrative processes of students through the development of the Academic Catalogue Hub, titled EDMIT—Education and Management Integration Tool. The platform integrates the long-standing difficulties of the manual workflow by unifying the process of submitting fees, verifying documents, and registering for the course in the digital environment. Structured access to academic services is provided to the students of all departments while role-based dash boards are available for faculty and administrators so that tasks like evaluation, approval, and monitoring are considerably less time-consuming. The upload and verification of documents, which are to be done by students beforehand for their course registrations, have been set up in a way that the initiative itself assures compliance with university regulations and also lets students move on academically at the right time. The platform not only performs verification tasks automatically but also reduces the chances of human error, besides giving students the status of their applications periodically, thus, making the process more transparent and eliminating hold-ups due to the administrative process. The Academic Catalogue Hub is presently used more than 4500 students and it has been a source of significant operational efficiency, consistency in verification, and complete student engagement. The results point out the possibilities of a unified digital system in terms of enhancing the diversity of university modernization and the overall experience of students in terms of being well-organized, accountable, and varied.

Keywords—Academic automation; Course registration; Digital verification; Educational Technology; Fee receipt submission; Workflow optimization.

JETLP Category— Research

I. Introduction

A. Background of Academic Administration Challenges

In many higher education institutions, academic administration is still very much reliant on a variety of disconnected manual processes to carry out some of the most essential functions, such as course registration by semester, fee receipt submission, and document verification. Such processes usually mean that the students have to go through different offices, show hard copies of their documents, and wait for the approvals to be done manually, which is the main cause of the delays, errors, and inconsistent communication. The absence of centralized systems often results in record duplication, isolation of departments, and problems with accuracy of data regarding students. The non-visibility and non-standardization of the manual verification process make the institutions' compliance with academic policies very difficult to handle. Furthermore, it is quite a challenge for the institutions to meet compliance requirements since the manual verification process is very opaque and non-standardized. Additionally, as the student population grows, these constraints result in operational bottlenecks that adversely affect both the administrative efficiency and the overall student experience. The necessity for fast, reliable, and easier-to-use academic services has increased, and thus it is essential for the schools to implement technologies that not only simplify the normal processes but also reduce the need for human involvement.

B. Objectives of Digital Transformation-EDMIT

Digital transformation in academic administration aims primarily at eliminating manual processes, which are time-consuming, with automated, intelligent and user-friendly systems that bring about better efficiency and transparency of the institution. The creation of the Academic Catalogue Hub as part of EDMIT - Education and Management Integration Tool - seeks to offer one platform where students, faculty, and administrators can communicate without any hindrances through dashboards that are based on their roles. Its central target is to make the fee receipt submission and verification process completely digital so that validation is faster, and the administrative workload is lesser. The system is configured in such a way that it will ensure compliance with institutional regulations by having a structured semester registration workflow in which students have to upload the documents that are mandatory before they get access to academic content. Institutions are supported by the platform in the transformation of their academic operations through automation, centralized data handling and scalable architecture resulting in the provision of a consistent, transparent and efficient academic journey for all the stakeholders.

II. Literature Review

The significance of academic automation and digital integration stands out with recent advancements in educational technology.

An online course registration system built with web technologies to provide major efficiency in both students and administrators' operations by performing registration, monitoring, and keeping records automatically. Puri and Bholankar (2025) present how such systems ease admissions, decrease mistakes, and improve satisfaction of users through the acceptance of digital verification, payment, and scheduling features.

Waruwu, Halida and others(2025) mention the establishment of a digital services system specifically created for administrative functions in higher education is highlighted. The biennial

system they built can handle important actions like document uploading, fee payment, and approval workflow automatically; hence it increases operational visibility and response time among the departments.

The application of learning management systems implement with the help of integrated analytics and tracking functions uncover very detailed attributes of student performance. Zhang, Obaidat et al.(2024) demonstrate a system that not only provides personalized support to students and but also gives educators access to data-driven insights, thus strengthening centralized platforms in education management.

Sanchez et al.(2024) through a comparison of learning management systems in higher education have pointed out the core features, usability differences, and scalability factors. The institutions are shown the way by this study in terms of their selection of solutions which will match their academic goals and infrastructure capacities.

Zamfiroiu, Vuksanović, and Candel(2024) delve into the automation of the student evaluation process, showcasing the role of online platforms in hastening grading, improving feedback quality, and lowering human involvement. The advantages of these solutions also extend to the overall workflow and standardization of the institution.

Khan et al.(2023) carry out a thorough literary analysis that charts the development of automated educational management systems. Their review lists a variety of innovative tools and methods that have been instrumental in the digital transformation of institutions in the field of course registration and monitoring systems.

Bashir et al.(2023) mainly deals with software applications for course registration for engineering students. His work indicates, among others, a reduction in registration errors and an increase in transparency. The paper states the system's capability to adapt to various academic needs and user's inclinations and therefore, it is favorable both to the students and the staff.

The modeling of educational management digitalization in the context of sustainable development is pointed out by Kryshchanovych et al.(2023). The authors assess the influence of digital technology adoption on organizational efficiency and at the same time, disclose the avenues for establishing sustainability in the long-run through tech-based practices.

Sangol Uche(2020) pronounces the launching of a mobile course registration platform which allows students to use it easily and in a flexible way. The text indicates that the function of mobile solutions is to involve the students more and more, to make the administration's tasks lighter, and to allow the swift digital confirmation of papers.

The mentioned research papers view academic automation, digital verification, and workflow optimization as the major factors contributing to the modernization of educational institutions, which in turn result in better service delivery and improved learning outcomes.

III. Challenges and Innovations in Academic Administration

A. Challenges of Existing Manual Workflows

In the traditional academic world, physical document submission, manual verification, and offline registration remain the common practices. The reliance on human verification results in a situation where, for instance, there are inconsistencies and errors and all these if not very carefully handled, lead to delays especially during the busy admission and registration periods. One way manual fee verification works is that administrative staff will have to verify receipts one by one, thus, the chance of the receipt being lost, misunderstood, or not noticed is higher. The students go

through a process of multiple submissions and clarifications which lead to long queues and frequent visits to the administration offices.

Furthermore, the lack of real-time tracking makes it impossible for students and faculty to get updates without going in person or checking the notice boards. Dissected processes among different departments—academics, finance, student welfare—result in communication gaps and thus, it is hard to have precise and up-to-date student records. The present workflows do not allow for much transparency in the verification process and do not provide the students with an explicit, pronounced academic roadmap. All these limitations point to the urgency of having sophisticated digital solutions that could automate verification tasks, bring about consistency in the workflows, and support efficient, data-driven decision-making.

B. Innovations in Academic Management Systems

Over the years, the recent developments in academic management systems, such as automation, centralized dashboards, and intelligent verification mechanisms, have contributed to the overall enhancement of the administrative ecosystem. By integrating document validation, cloud-synchronized databases, and automated approval workflows, modern platforms are less dependent on humans and more accurate. A large number of educational institutions have embraced the implementation of role-based access controls that allow students, faculty, and administrators to work in mutually exclusive interfaces that are tailored to their duties and rights. Documentation trails, e-messaging, and real-time alerts have become the must-have attributes of modern academic setups.

One of the biggest new developments that the top schools have embraced is the linking of structured course registration systems with everything, including dynamic elective management. The selection of electives is a major factor in the personalization of the B. Tech curriculum and the development of specific skills. The new generation of the platform EDMIT gives students the ability to view professional electives (PE) and open electives (OE) along with options, prerequisites, understanding of the credit structure, and selection based on the interests and goals. The systems will check for the students' eligibility, prevent the selection of conflicting electives, and ensure that the seat limits for each department are observed.

The Academic Catalogue Hub (EDMIT) responsible for such an inclusion, has made it possible for students to choose elective disciplines according to their interests from the beginning of the 3rd year as per the institutional norms and to choose the best fitting professional and open electives from the subjects offered. This feature gives students academic freedom, decreases manual collaboration among departments, and makes sure that the options for electives are approved, recorded, and monitored in the centralized academic ecosystem. EDMIT has the automatic verification, the dynamic course allocation, and the error-free digital workflows altogether, and thus it can be considered a great evolution in academic management systems.

IV. System Architecture

A. Overall System Design

The Academic Catalogue Hub (EDMIT) is finely crafted to be a modular, service-oriented system that amalgamates all the academic workflows into one digital platform. The architecture adopts a three-layered model which consists of a presentation layer, an application logic layer, and

a cloud-based data layer thus providing a crisp demarcation of concerns and facilitating maintainability in an effective manner. It is the system's workflow automation of such key transactions as fee receipt submission, document verification, semester registration, and elective selection that are done through the modules that communicate smoothly with the backend services.

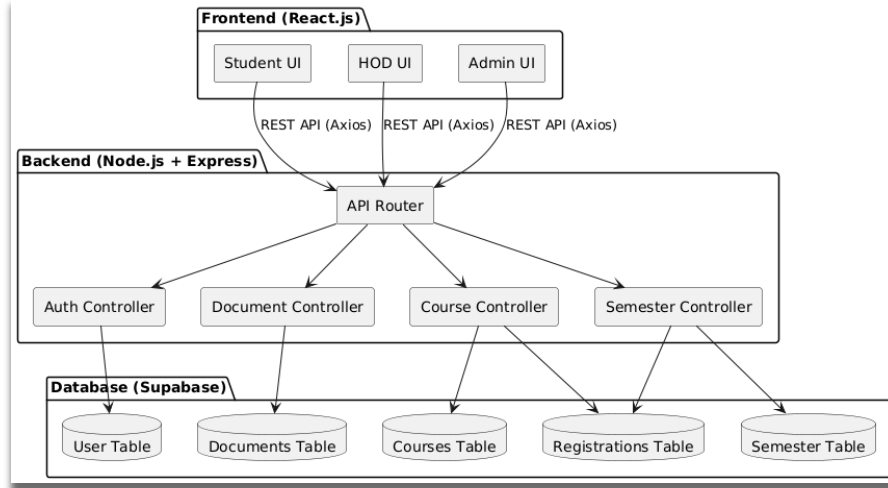


Fig1: System Architecture of EDMIT

The complete system architecture of the Academic Catalogue Hub (EDMIT), is depicted in this figure fig1, wherein the frontend built with React.js, Node.js/Express backend, and Supabase database interact with each other. Besides, it also emphasizes the major controllers and the communications through REST API among the student, HOD, and admin modules.

Every single module is formulated to function independently of the others while at the same time being a part of a unified academic administration ecosystem. A workflow engine that is centralized in design comes at the top of the building process. This engine takes care of the verification rules, registration logic, role-based permissions, and the inter-module communication. Adoption of this centralized approach results in the prevention of data duplication, setting the stage for uniformity throughout the academic processes, and providing support to the whole institution's synchronization. The real-time functionalities offered by Supabase mean that every action—verification approval, document upload, or elective confirmation—is immediately reflected on all dashboards and this way eliminates the lapses and makes the communication open. The system has been built in such a way that it can scale really well, thus, the platform can support thousands of students and staff concurrently without any drop in performance.

B. Technology Stack Used

EDMIT implements a cutting-edge, cloud-native technology stack, which is mainly focused on the aspects of security, scalability, and real-time operation. The frontend is powered by React.js, leading to a very engaging and interactive interface that consists of reusable components and its different states are animated while the layout is responsive to devices. The whole user interface is designed using Tailwind CSS and ShadCN components that allow different user roles to have the same access level and at the same time, the entire system is uniform. The

frontend utilizes secure RESTful API calls to the server for data exchange between different modules.

The backend utilizes Node.js and Express and this guarantees a powerful API service layer that manages the logic of user authentication, document processing, receipt verification, and course registration. The software employs Supabase to be the cloud data layer where services like PostgreSQL storage, user authentication, document storage, and real-time event listeners are all provided. The security of data is ensured by role-level security (RLS), and the user-access policies are defined in such a way that on a per-user basis, individual's view or modification rights on specific records of data are restricted.

C. Role-Based Access and Dashboards

RBAC (Role-Based Access Control) is an access control model which classifies and limits user access based on user roles in the architecture of EDMIT. Thus, such a system permits only those users to perform actions who have the necessary privileges. As a result, every user type receives a different personalized dashboard that reflects their duties. Students can work on different activities like fee receipt submission, document upload, registration status tracking, and elective selection through the corresponding module. Moreover, the dashboard provides real-time notifications, pending actions, and academic readiness indicators for each semester. This user-centered design promotes accountability and consequently helps students to be self-sufficient in managing their academic journey.

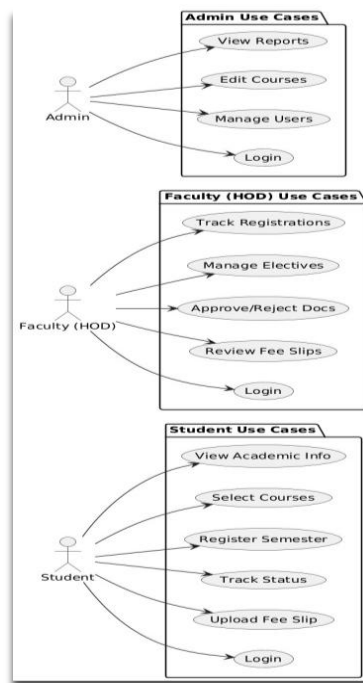


Fig2: Use Case diagram of EDMIT

The diagram fig2, is showing the functional roles and actions performed by the Admin, Faculty (HOD), and Students. It has provided a transparent view of the system's user interactions,

which consist of course management, fee slip review, handling of electives, and semester registration.

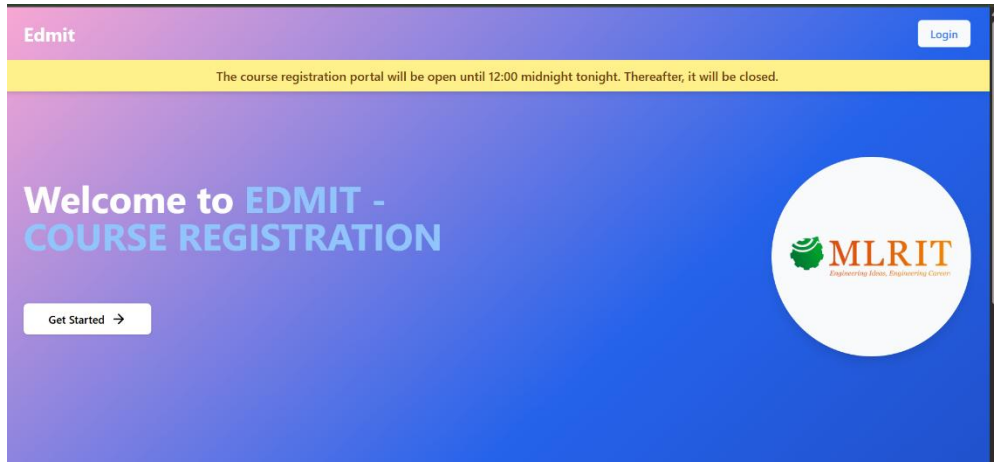


Fig3: Landing Page – EDMIT

The landing page fig3, is used for presenting the first interface of the Academic Catalogue Hub which is for the users. It gives directing to the login module and delivers system announcements like registration deadlines.

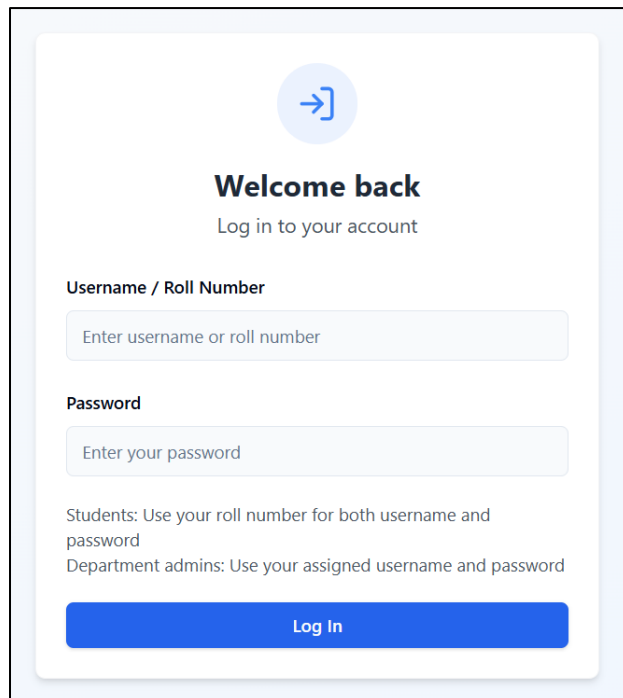


Fig4: Login Interface – Role based access

The figure fig4, illustrates the secure login interface that is made available to students, heads of departments, and administrators. The verification of the users is done through their role-

specific credentials which guarantees that the system is secure and access is restricted to the users who have been authorized only.

The verification dashboards for the Faculty and HODs are designed for them to check on student submissions, approve or reject documents, and observe departmental registration activity. With the help of automated verification flags, faculty can attend to exceptions only, which in turn leads to a huge reduction of their workload. Administrators are given controls with the highest level of privileges for the academic structure management, course catalog updates, registration windows scheduling, and institution-wide analytics visibility. They get a dashboard that merges data from all departments, which is a great help for academic planning and monitoring as the data can be analyzed and used for making decisions.

V. Workflow Planning

A. Fee Receipt Submission Process

The process for submitting fee receipts is a new and completely digital, student-based method that eliminates in-person verification and replaces it with a digital process instead. First, students upload their semester fee receipts to the specific submission module of the platform. The upload process is accompanied by clear instructions from the system, which makes it certain that all the important details such as the receipt image, document naming convention, payment date, and transaction identifiers are uploaded correctly. After the upload, the document goes to Supabase Storage where it is kept securely and also tagged with the student’s profile for tracking throughout the verification cycle. This method reduces reliance on physical paperwork and at the same time guarantees that all submissions are digitally recorded for audit and compliance purposes.

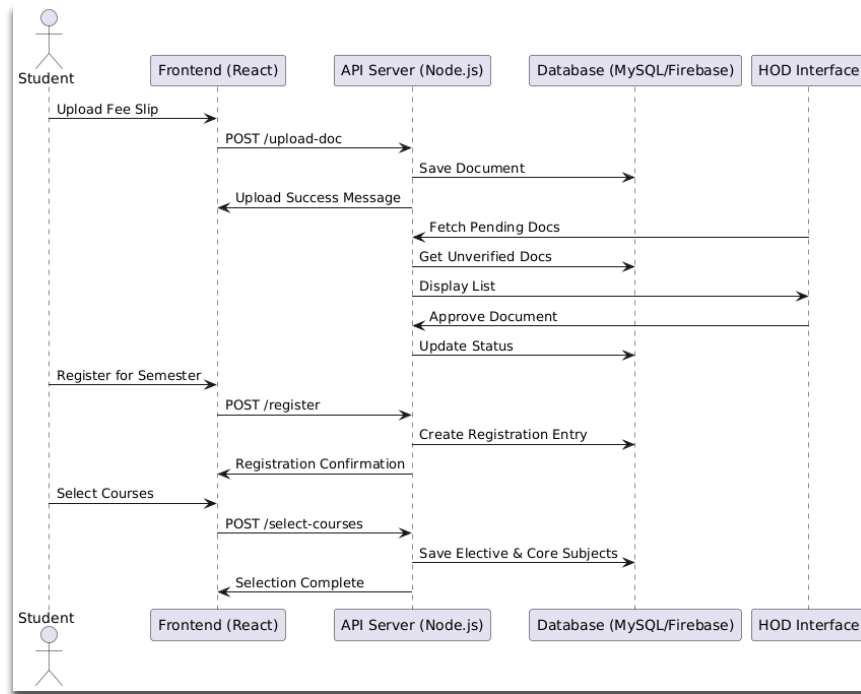


Fig5: Sequence diagram flow of EDMIT

This diagram fig5 represents the entire process of uploading fee slip, document verification, semester registration, and elective selection. It shows the communication between the frontend, backend API server, database, and HOD interface.

In addition to the workflow, there is a validation process that is delineated and made pleasing by the respective Heads of Department (HODs). The system after students have submitted their fee receipts sorts these submissions and presents them to the faculty reviewers on a centralized verification dashboard. The HODs are responsible for checking the roll number, proof of payment, quality of receipt, and completeness of supportive documents. They do this to ensure that institutional requirements are met. This is a very strict process that ensures the accuracy of the verification process while maintaining the academic control of the department. Students are notified very quickly about the status of their submissions, which is a measure to ensure transparency and also reduce the need for them to come in person to inquire about their submissions.

B. Document Upload and Verification Techniques

When students upload their fee receipts and required documents, Academic Catalogue Hub categorizes them in the department’s dashboard to verify. Students has to upload all necessary documents in the correct format and order through easily navigable rules and regulations. Upon submission, the system automatically sorts out the student’s data into their department and into database (Supabase) so that only the HOD or any authorized faculty are able to view and evaluate them. This guided path avoids any misrouted documents and department scrutiny in confirming academic preparedness for the semester.

Checking is manual in EDMIT but via a much more efficient digital interface. There is a separate verification panel available to each department HOD where the student can go through his/her application status, verify if all institutional requirements have been satisfied and thoroughly scrutinize fee receipt particulars of date, clarity and validity. The Editors-in-Chief have access to three buttons per submission – Accept, Reject and Keep On Hold– depending on the degree of completeness and correctness of the provided information uploaded. Furthermore, the HOD also comments out the justification that for acceptance, rejection or pending. Such feedback loops are critical for learning, as they allow students to locate errors, correct their assignments, and re-upload documents for review. This recursive validation promotes reliability, eliminates administrative ambiguity and establishes a transparent context for student-faculty communication.

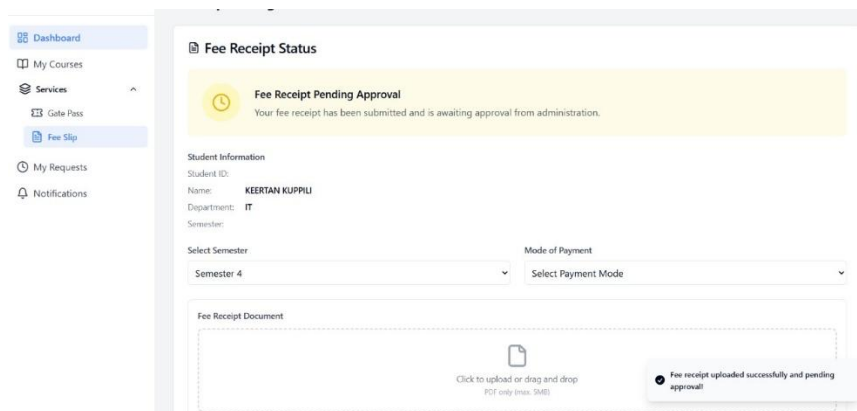


Fig6: Fee receipt uploaded and waiting for approval

This interface in fig6, shows the student's status page just after the uploading of a fee receipt. It indicates that the submission was successful and that the document is now in the queue for verification by the respective HOD.

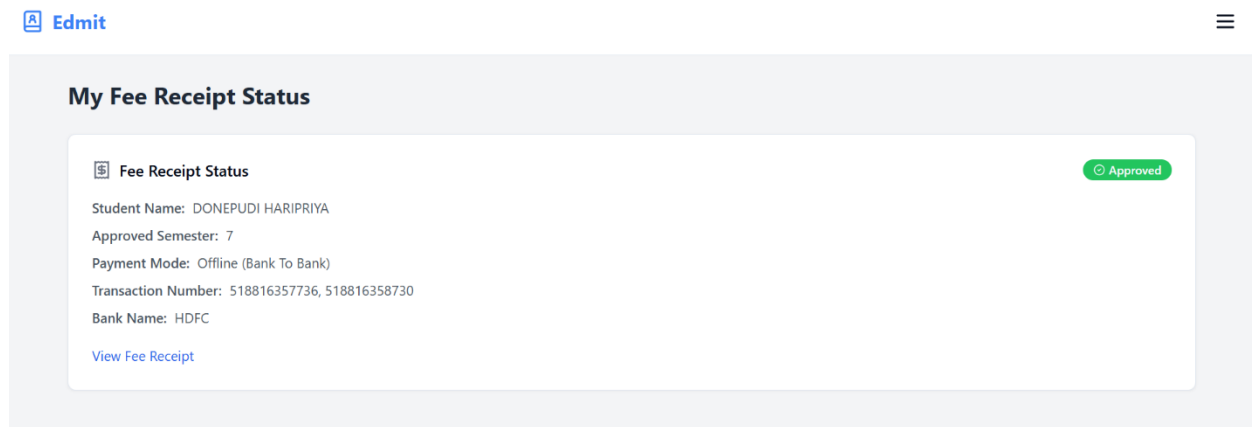


Fig7: Fee Receipt Status – Approved

The diagram fig7 shows the student's fee receipt status after the verification process along with payment mode, transaction details, and the assigned semester which grants access to the course.

In addition to departmental certification, EDMIT involves administrative transferability in order to aid coordination at the institutional level. Admin interface: Admins can see a combined status in a dashboard to which everyone has privileged access and through department-wise drop-down selection. This interface enables administrators to run reports showing students with outstanding submissions, incorrect documents, and/or verification holds. This type of reporting permits departments to communicate with administrative offices in a timely manner and ultimately allows no student to miss the verification deadline. With a centralized dashboard and real-time visibility into information from all departments, EDMIT streamlines teamwork, minimizes follow-up overhead, and paves the way for a successful academic year long before classes begin.

C. Course Registration Workflow

The course registration system is intended to ensure that students are meeting their academic requirements in a way that is both compliant with policy and systematic. The whole registration activity is initiated only after the students are notified that their fee receipts and necessary documents have been duly verified. This practice conforms to the university's rules that require the student to clear his/her fees before being allowed to use academic facilities. Once verification is complete, the system opens the semester registration dashboard for the student, which displays the compulsory courses, credit requirements, and elective options tailored to their program and year of study.

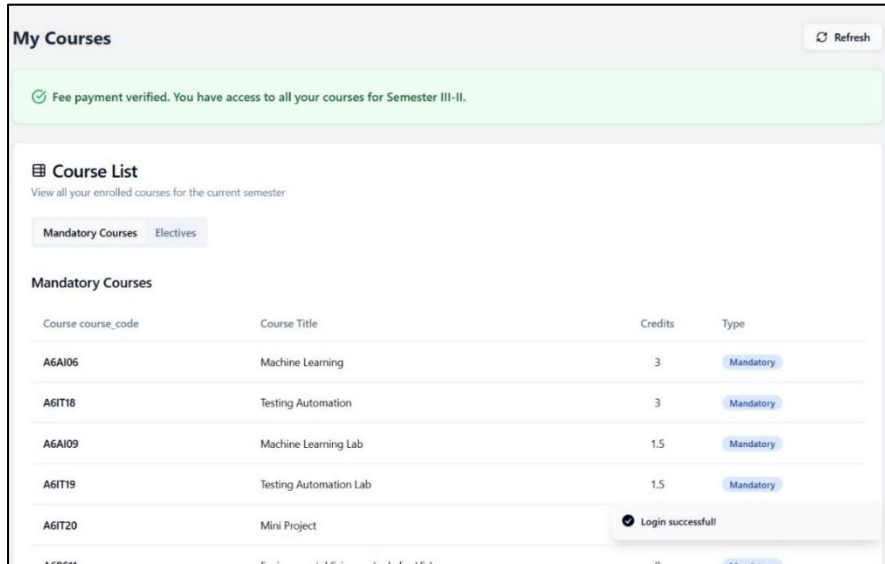


Fig8: Courses Access - Mandatory Courses

After the fee receipt is accepted by the system, the student can enroll in the mandatory courses of the semester. This interface fig8, shows the course codes, titles, credits, and the type (mandatory).

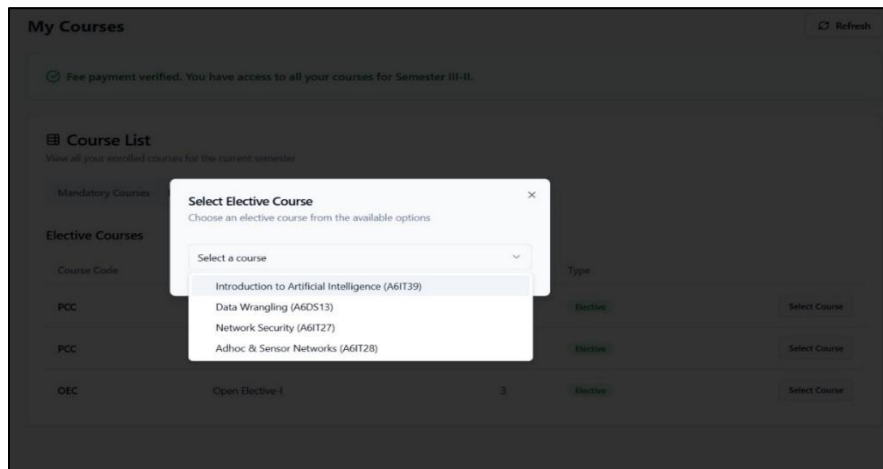


Fig9: Elective Course Selection

This page fig9, is for students to make their decision on elective subjects from the choices available. The professional and open elective dropdowns are shown according to the current semester and department.

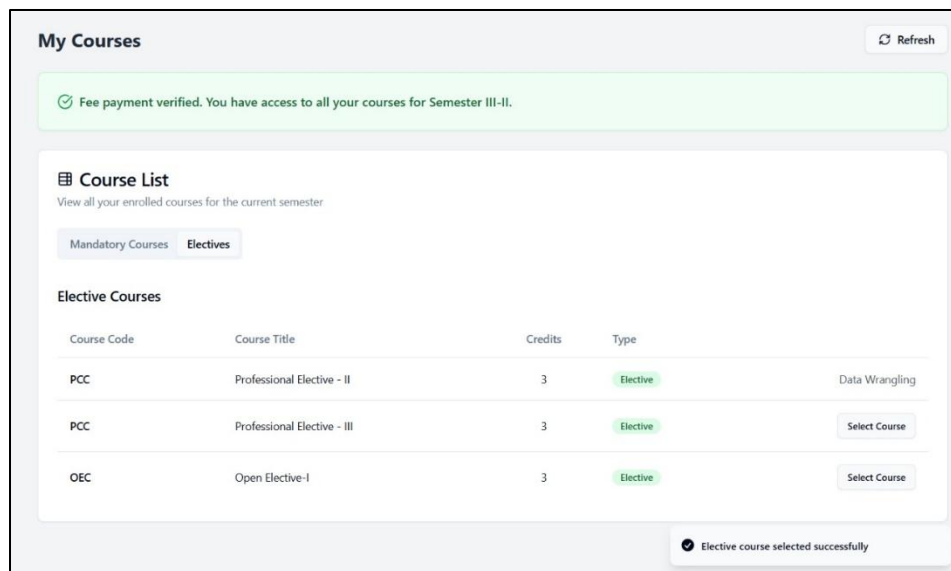


Fig10: Electives Confirmed and Saved with details

The image fig10 displays the revised elective list post the successful selection process. Students will be able to see their selected professional and open electives to avoid any misunderstandings before making the final decision on academic registration.

Course Elective selection is an important step in the students work flow beginning 3rd year of B.Tech program. The system provides users with department-wise offered PE and OE options, along with availability and resource constraints. Students can investigate what is on offer at different courses and compare the credit configuration of qualifications. After selection, the selections are verified against eligibility criteria and availability of seats before they are finally saved in the main data base. Heads of Departments (HODs) and administration are able to see in real time the distribution of electives and course loads which helps in academic planning. The process ends with a confirmation summary whereby the students are allowed to check their final registration details which will then ensure transparency and accountability.

VI. System Integration and Security Framework

A. Integration Modules

EDMIT's modular structure is in such a way that it guarantees the effortless combination of validation, registrational and control of the administration, thus taking out the problem that has been there in most systems in terms of the aforementioned functions. Document submission and verification module is a one-stop solution for student uploads and departmental dashboards working together. This allows heads of departments (HODs) to get access, observe, give their nod or turn down the uploads through one interface. The HOD's each decision sets off an update on the student's dashboard by means of Supabase real-time listeners making sure that synchronization is done instantly. Elective selection module is a noteworthy helper for the third-year's B.Tech students who share interest in and are taking professional as well as open electives, as it gathers the available elective groups, checks if there are seats, and saves the selected ones in the program's table.

The module for administrative integration not only enhances the verification and registration

process but also allows different departments to share their data for a single reporting dashboard. Hence, the administrators can extract department-wise reports, track the documents that are yet to be uploaded, and detect the areas where compliance is not reached yet before the academic deadlines. The above-mentioned integrations have opened up clear lines of communication between students, faculty, and administrative offices, thus reducing the waiting time and making sure that the academic planning is in line with the institutional timelines. The different modules being dependent on the use of well-defined APIs and shared data schemas has helped the system in maintaining consistency while at the same time being flexible enough to support future characteristics such as analytics dashboards or AI-based recommendation systems.

B. Security Measures

Throughout the whole process of EDMIT implementation, security and data privacy were the main concerns. Supabase Authentication is the technique used by the system for managing user sign-ins securely, which allows only verified users to access role-specific data. Role-Based Access Control (RBAC) is enforced both at the frontend and backend, along with this all the academic records that should not be accessed by the unauthorized ones. Supabase's Row-Level Security (RLS) policies set the visibility that is so strict that each student is allowed to view only his/her documents and registration records.

All the document uploads in EDMIT are securely stored in Supabase Storage, where access control policies are applied to prevent accidental or unauthorized downloads. The communication between frontend and backend APIs is done through encrypted HTTPS, and thus, the secure transmission of personal documents like fee receipts is guaranteed. The monitoring of administrative privileges is done through audit logs which show all the actions like verification overrides, registration updates, and report generation. Moreover, all the workflows are so designed that human contact with sensitive personal data is minimized, and thus, verification and approval are done with systematic procedures that have traceability and accountability. These security measures constitute the main reason why EDMIT is considered a reliable and compliant academic management platform that is suitable for large-scale institutional deployment.

VII. Results and Impact

The whole university got the benefit of the EDMIT project's Academic Catalogue Hub application, which resulted in an administration that was much more efficient, a better quality of student experience, and more data visibility. The system was able to handle the processing of student fee receipts, document verification workflows, and course registrations for the whole semester for more than 4500 students with no impact on the quality of its service. The implementation of single sign-on and the creation of different dashboards according to user roles not only made the transition between students, teachers, and administrators smoother but also guaranteed the same level of comfort and usability in all departments.

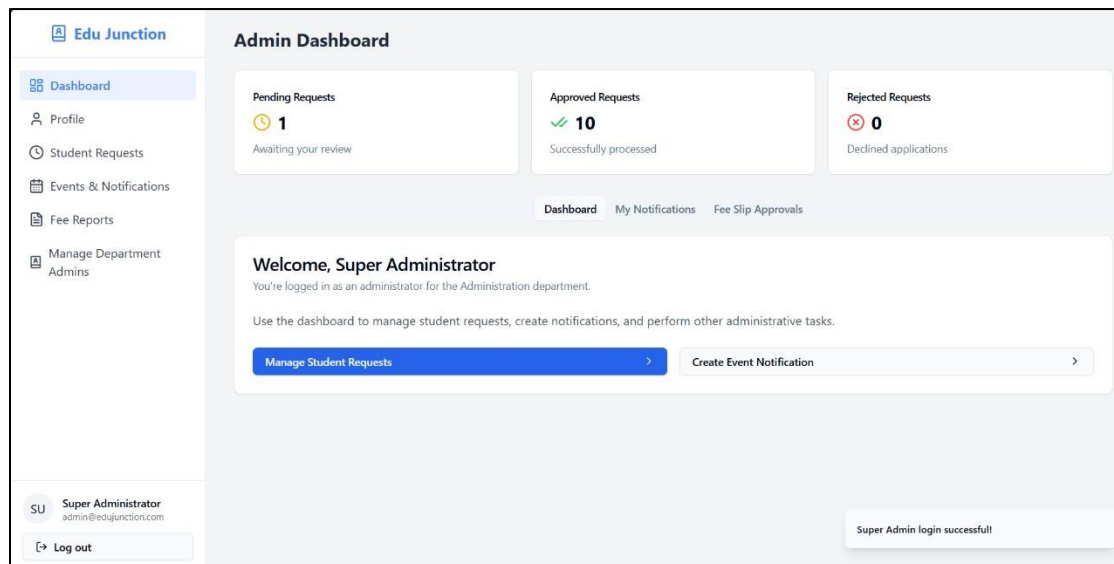


Fig11: Super Admin Dashboard

The Super Admin Dashboard shown in fig11, gives a summary report of the student requests that are either pending, accepted, or rejected in the whole institution. It makes possible the highest level of oversight and coordination of the administrative workflow that is characterized by constant communication among the departments.

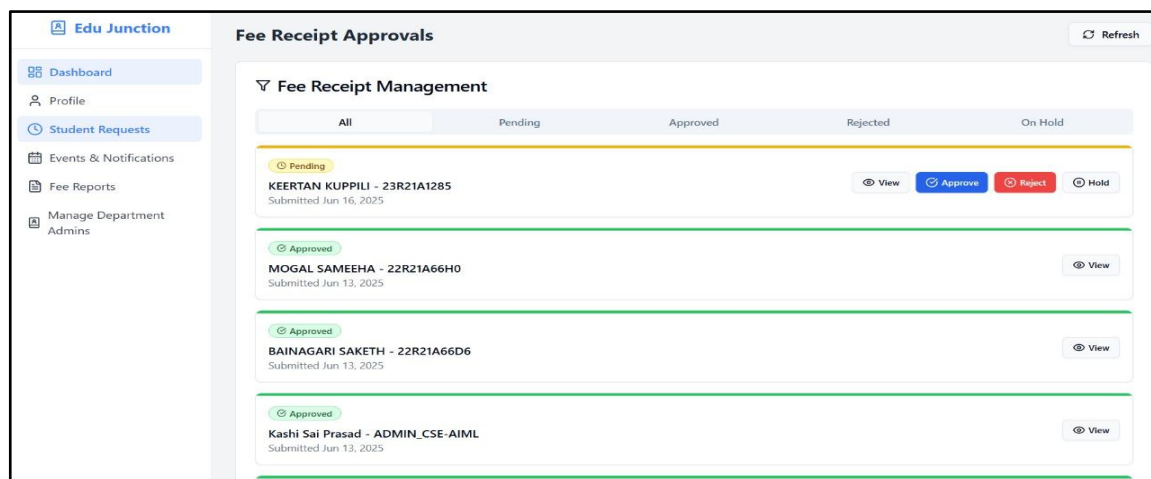


Fig12: Fee Receipt Approvals Panel

The Super Admin Dashboard fig12, shows all the submissions of student fee receipts classified into four categories: pending, approved, rejected, and hold. The Super Admins have access to all departments and can see, verify, and act accordingly to the submissions. The most important result was perhaps the electronic automation of the whole fee receipt submission and verification cycle. Students uploaded their fee receipts online while the heads of the respective departments were simultaneously reviewing the submissions and issuing approvals

or rejections with comments. This completely eliminated manual queues, cut down on the use of paper, and increased the correctness of validation processes. The elective course selection, which enabled students to select both professional and open electives from a given list, greatly contributed to the academic freedom and also to the engagement of the students.

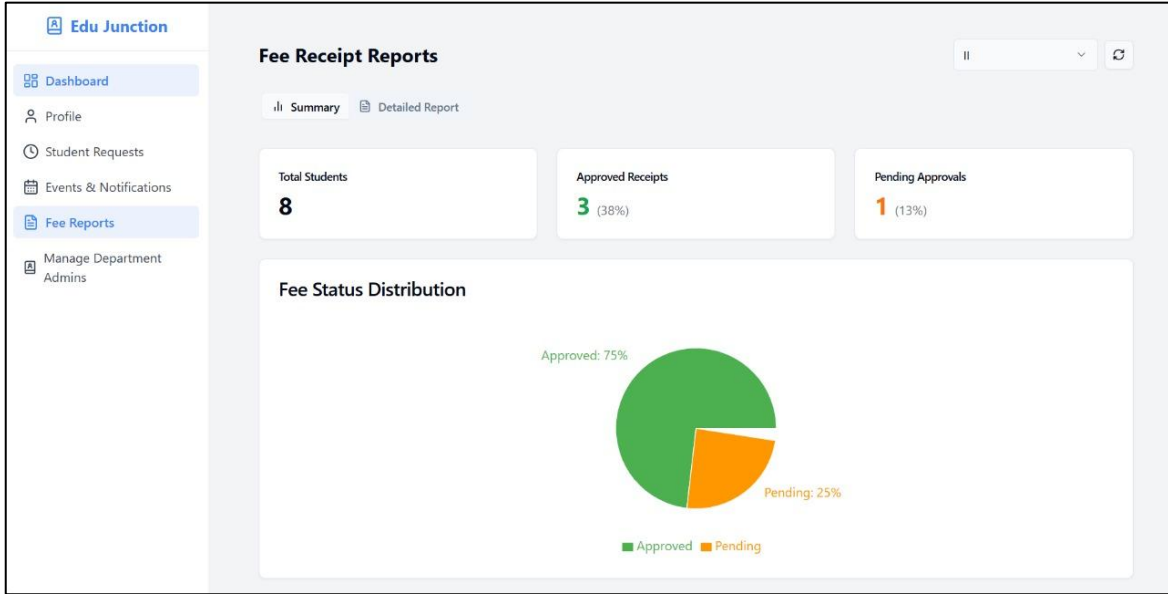


Fig13: Fee Receipt Analytical Reports

The dashboard of the Super Admin-Fee Reports section fig13, provides the graphical representation of both the summarized and detailed reports of the fee receipt approvals. Super Admins are allowed to filter the data by department to be able to follow the trends of compliance in the institution and the pending workload.

The interface shows the following table of department administrators:

Department	Username	Name	Email	Created At	Actions
CSC	cscadmin	cscadmin	cscadmin@example.com	12/6/2025	[Delete]
CSE	cse	CSE Department Admin	keertan.cloudjam@gmail.com	13/6/2025	[Delete]
CSM	admin_csm	Kashi Sai Prasad	csm@mlrit.ac.in	13/6/2025	[Delete]
IT	itadmin5	Siddharth	siddharth4206@gmail.com	13/6/2025	[Delete]
IT	it	IT Department Admin	pekkawarriorjr@gmail.com	13/6/2025	[Delete]
IT	itadmin	itadminname	itadmin@example.com	12/6/2025	[Delete]
IT	itadmin1	itadminname2	itadmin@example2.com	12/6/2025	[Delete]

Fig14: Manage Department Admins Interface

With this section fig14, the Super Admin can not only view but also add and remove administrators for the different departments. The whole process of managing credentials is done securely and it is guaranteed that each department has the right personnel with proper authorization appointed.

The administrative dashboards through live analytics, were able to offer very helpful insights that included approval statistics, requests still waiting for a decision, department wise summaries, and the reporting of fee receipts distribution. The insights given by the dashboards made it possible for the decision-making process to be faster, the discrepancies to be identified sooner, and the communication between different departments to be more efficient. Faculty experienced less workload during the times when registration was busiest, and students were able to see the status of their applications clearly, benefit from the uninterrupted flow of registration, and have the academic processes be transparent to them. The system's ability to eliminate time-consuming and intricate institutional tasks was matched by its ability to promote accountability and clear operations.

VIII. Conclusion

The Academic Catalogue Hub (EDMIT) showed the world how a methodical and digital system can turn around the existing academic administration in colleges and universities significantly. It has integrated the workflow of submitting student fee receipts, verifying documents, selecting elective courses, and registering for the current semester into a single digital hub which lifts the burden of manual processes that are scattered and usually lead to delays, inconsistencies, and overload of administration. The system's excellent role-based access model not only keeps the responsibilities of students, faculty, and administrators clearly separated but also allows the different groups to interface with the system according to their roles, thus the model fosters clarity, openness, and discipline in all educational activities through its operational mechanisms. The fact that the platform was able to cater to more than 4,500 students for its first deployment, clearly shows that it is scalable and capable of controlling large-volume institutional activities while being both accurate and responsive. Real-time notifications, visible statuses, and error-free pathways for registrations are among the benefits received by students which in turn lead to increase participation and acceptance of their academic progress. The faculty and HODs benefit from the lessened workload that comes with the use of easy-to-follow verification workflows and organized comment-based communication with the students during the peak registration cycles. The administrators, on the other hand, receive overall institutional insight through analytics dashboards which give summaries of the submissions by departments, trends of approval, and compliance data; thus they can make quicker decisions and can coordinate better. The route of the institutions to digital maturity will be very long and challenging but systems like EDMIT will surely be at the forefront of the battle and will be the backbone of sustainable, effective and student-centered administrative systems.

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Author Bio

Authors are associated with the Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning) at MLR Institute of Technology, Hyderabad, India with joint contribution in academic knowledge, research experience and technical innovation towards this paper. N. Jayasri is an Assistant Professor with 14+ years of teaching experience with AI, ML & Data Driven Computing and guided several advanced student project works practicing innovative assignments and research based projects.

Dr. K. Sai Prasad, Associate Professor & Head of the Department, has well over a decade of academic and research leadership along with 28 publications to his credit along with 10 patents as well as rich knowledge in intelligent systems and AI based automation.

D. Haripriya, B. Abhilash, M. Sameeha and Ch. Shashank, undergraduate authors of this paper are part of the top performing students in the AIML department and have a stellar academic profile besides having very strong technical skills including full stack development, system architecture, database engineering and workflow automation.

They have consistently shown great leadership, problem solving and a focus on building scalable solutions in the real-world. Their overlap in hard work, and depth of expertise were instrumental in designing, building, and implementing the Academic Catalogue Hub (EDMIT) as a sustainable platform for the whole institution. Jointly, the authors are an amalgamation of scholarly expertise, knowledge and student-initiated creativity.

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