Academic Audit Report Generation System

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Academic Year 2025-26

A Project Report on

Academic Audit Report Generation System

Submitted to

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

in partial fulfillment of the requirement for the degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE & ENGINEERING

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Academic Year 2025-26

Certificate

This is to certify that the project entitled

Academic Audit Report Generation System

*being submitted by **Mr. Shailesh Bargal, Mr. Tushar Hasewad, Ms. Khushi Khandalkar, Mr. Sushilkumar Kadam** to the Dr. Babasaheb Ambedkar Technological University, Lonere , for the award of the degree of Bachelor of Technology in Computer Science and Engineering, is a record of bonafide work carried out by them under my supervision and guidance. The matter contained in this report has not been submitted to any other university or institute for the award of any degree.*

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ACKNOWLEDGMENT

We are greatly indebted to our mini project guide, **Dr. B. S. Kapre**, for her able guidance, and we would like to thank her for her help, suggestions, and numerous helpful discussions.

We gladly take this opportunity to thank **Dr. A. M. Rajurkar** (Head of Computer Science and Engineering, MGM's College of Engineering, Nanded).

We are heartily thankful to **Dr. G. S. Lathkar** (Director, MGM's College of Engineering, Nanded) for providing facilities during the progress of the project and for her kind guidance and inspiration.

Last but not least, we are also thankful to all those who helped directly or indirectly in the complete and successful development of this project.

With Deep Reverence,
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ABSTRACT

The Academic Audit Report Generation System is a web-based platform developed using HTML, CSS, JavaScript, AJAX, PHP, and MySQL to simplify and automate the process of preparing academic audit reports. Educational institutions handle large volumes of data related to faculty, students, courses, research, and infrastructure. Managing this information manually becomes slow, unorganized, and error-prone. This system provides a centralized interface where departments can enter, update, and maintain academic records efficiently.

Traditional audit preparation involves repetitive data collection, verification, and formatting, which often leads to inconsistencies, delays, and human errors. Institutions face challenges such as lack of centralized storage, difficulty in maintaining updated records, and absence of automated report generation. To overcome these issues, the system is designed with structured forms, real-time validation, and secure role-based access. It automates report creation using predefined templates, ensuring accurate, consistent, and audit-ready outputs.

By integrating a user-friendly front end and a strong PHP-MySQL backend, the system significantly reduces manual work and enhances data accuracy. Automated summaries, analytics, and quick report generation help institutions identify strengths and improvement areas, supporting better decision-making. Overall, the Academic Audit Report Generation System improves productivity, transparency, and quality assurance, making the audit process faster, smarter, and more reliable.

TABLE OF CONTENTS

List of Figures

List of Tables

Chapter 1

INTRODUCTION

A software-based system for gathering, organizing, analyzing, and automatically producing academic audit reports for colleges and universities is called an Academic Audit Report Generation System. By documenting information about teaching-learning procedures, curriculum delivery, student outcomes, faculty activities, and departmental performance, it aids institutions in assessing academic performance.

By offering structured data entry, validation and automated report generation in formats like PDF or DOCX, the system replaces manual report preparation. Colleges can meet accreditation and regulatory requirements like NAAC and NBA while saving time, increasing accuracy, and maintaining consistent report formats with the use of an automated system. In general, academic evaluation and reporting are more accurate, efficient, transparent, and consistent thanks to the Academic Audit Report Generation System.

- History:

Academic audits actually have their roots in the quality checks that industries use. Companies ran regular audits to see if things were working, if standards were being met. Eventually, colleges borrowed the idea to take a closer look at teaching, curriculum, and how well students were learning. Back then, it was all pretty manual. Teachers and departments kept piles of paper records, filled out registers, and juggled spreadsheets. Pulling together audit reports meant tracking down data from all over the place. It took forever, and mistakes slipped through all the time.

Then, accreditation groups like NAAC and NBA showed up, and suddenly, everyone needed to deliver accurate, well-organized audit reports—and fast. Once information technology caught on, colleges started switching to digital tools and MIS platforms to keep track of academic data. That’s how Academic Audit Report Generation Systems came along. These systems do the heavy lifting: they grab data, check it, process it, and spit out reports, all with much less hassle.

Most are web-based now, tied right into the school’s own databases, so generating a standard report is quick and painless. Honestly, these systems have become a big deal for keeping up quality, driving improvement, and handling accreditation in higher education.

➢ Data Collection for Academic Audit Report Generation System

We talked directly with faculty and academic coordinators who've handled audits before, just to see how they actually collect and organize all that data for academic audit reports. People were pretty open about what goes into making these reports by hand—the headaches with gathering data, the hassle of dealing with inconsistencies, and the constant pressure from tight deadlines.

We also got our hands on past audit reports and a bunch of PDFs from different departments. Digging through all those documents, we figured out how the reports are set up, what kind of data the institution expects, and how they usually judge things. Some sections kept showing up again and again, and there were spots that always seemed to need fixing.

All that gave us a clear picture of what the new system needs to do. So, we used what we learned to map out and design an Academic Audit Report Generation System that actually fits the way the college works and meets accreditation standards.

➢ System Necessity:

Colleges really need an Academic Audit Report Generation System, and here's why:

- Keeps Academic Standards in Check Colleges have to keep an eye on the quality of teaching, how well students are learning, what's actually being taught, and how assessments are done. With an academic audit system, you get a clear way to track and maintain these standards across every department.

- Cuts Down on Time and Hassle The old way—manually putting together reports with piles of documents and endless spreadsheets—takes forever and leaves plenty of room for mistakes. An automated system gathers the data and creates reports much faster, which means less stress and busywork for faculty and staff.

- Boosts Accuracy and Consistency When people handle reports by hand, things get missed—numbers don't always add up, and the formats can be all over the place. The system takes care of data checks, uses the same templates every time, and runs the calculations for you. So, you end up with reliable reports you can trust.

- Helps with Accreditation (NAAC, NBA, etc.) Accreditation bodies like NAAC and NBA ask for well-organized audit reports to prove a college is focused on quality and always improving. This system makes it way easier to meet those requirements and stay compliant.

- Keeps All Academic Data in One Place Everything—course outcomes, student grades, faculty info, department activities—ends up in a single database. That makes finding, updating, or checking data simple and fast.

- Makes Decisions Smarter With detailed audit reports, management can spot where things aren't working, figure out what needs to change, and plan better. It helps with updating curriculums and training faculty, all based on real data.

- Promotes Transparency and Accountability The system logs all academic activities and evaluations, so there's a clear record. Departments and faculty know they're accountable, and the whole process feels more open and fair.

- Quick and Easy Report Generation You can generate audit reports automatically as PDFs or Word documents. Perfect for submitting to authorities or showing off during inspections—no extra formatting needed.

- Grows with the College Once you set it up, you can reuse the system every year with just a few tweaks. It's a lasting solution that keeps working as the college evolves.

To systematically assess and uphold the caliber of academic activities, including teaching-learning procedures, curriculum implementation, student performance, and faculty contributions, colleges require an Academic Audit Report Generation System.

Manually preparing academic audit reports takes a lot of time, is prone to mistakes, and is frequently inconsistent—especially when a lot of data is involved. Additionally, it makes centralized data management possible, facilitates data-driven decision making, and guarantees accountability and transparency across departments, all of which improve the effectiveness and dependability of academic evaluation.

The project emphasizes the importance of transparency in academic operations. By consolidating data from various sources such as student records, course outcomes, and faculty contributions, the system creates a unified view of institutional performance. This helps administrators make informed decisions, identify trends, and implement strategies to improve overall academic standards.

Unlike traditional methods, which rely heavily on manual calculations, spreadsheets, and paper-based documentation, this system introduces automation, minimizing human errors and saving significant time. It also allows customization, enabling institutions to generate reports tailored to specific needs, such as departmental audits, semester-wise performance, or accreditation requirements.

Designed with user-friendliness in mind, the system ensures that individuals with minimal technical expertise can quickly produce detailed reports. Features like automated data validation, dynamic report generation, and graphical result visualization streamline the auditing process, enhancing both efficiency and effectiveness.

This system aims to streamline the process of gathering, analyzing, and displaying academic data, thus enhancing efficiency and minimizing administrative burden. It offers a unified platform that allows data from various departments, courses, and student records to be merged, verified, and processed to produce precise audit reports. By utilizing this method, organizations can reduce time spent, lessen mistakes, and maintain uniformity in their reporting procedures.

1.1 Problem Statement

Colleges still handle academic audit reports by hand, and honestly, it causes a lot of problems. Data ends up inconsistent, mistakes slip into calculations, reports show up late, and digging up old records turns into a headache. What really helps is an Academic Audit Report Generation System. It pulls all the academic data into one place, checks everything automatically, and creates reports fast. The result? Accurate, on-time, and standardized reports that make quality assurance and accreditation way smoother.

Accreditation bodies like NAAC and NBA want academic audit reports that are organized, accurate, and always current. The old manual system just doesn’t cut it—it makes it tough for colleges to keep up with compliance and keep improving. Colleges need a system that can handle everything: collecting data, checking it, processing it, and generating reports, all without the usual hassle. An automated Academic Audit Report Generation System takes care of the heavy lifting. It cuts down on manual work, boosts accuracy, and makes the whole process more transparent. Plus, it keeps all the data in one place and helps colleges make better decisions when it comes time for academic evaluations.

- Issues arise due to the absence of an automated system:

First, manual compilation of data increases the likelihood of human error, which can affect the accuracy of reports.

Second, it may take weeks to prepare reports if there are many departments or courses, thus making decisions take longer than usual.

Third, institutions may encounter problems in maintaining transparency and accountability since there is no central system to track and store academic data.

It is in addressing these challenges that the Academic Audit Report Generation System is proposed. The proposed system represents the automation of data collection, analysis, and report generation that ascertains accuracy, saves time, and enhances transparency in a centralized platform where academic information is stored, processed, and presented in a lucid manner that enables the institutional management to make various decisions for enhancement of the overall education quality.

In addition to that, institutions always face difficulties in standardizing the audit report format. Different departments may represent the data differently, making comparison of results or drawing general conclusions tough to achieve, which always leads to incomprehension and low reliability of the audit process.

Another serious problem is the inaccessibility of historical data. Without a proper digitized system, obtaining past records for analysis or compliance purposes can be very difficult and time-consuming. This not only delays long-term planning but also disrupts the ability of the institution to monitor progress and undertake corrective actions on time.

The Academic Audit Report Generation System responds to these challenges with a competent, centralized, automated, and flexible system. The system reduces manual work, ensures data accuracy, standardizes report formats, and provides advanced analytics for informed decision-making. By streamlining the audit process, it allows institutions to maintain transparency, improve accountability, and focus on continuous improvement in academic performance.

➢ Objectives of the Academic Audit Report Generation System:

- Collecting and processing academic data shouldn’t be a hassle. This system pulls information straight from different departments using digital forms, so there’s way less manual typing—and fewer mistakes along the way.

- It keeps reports accurate and consistent, too. With ready-made templates and built-in checks, every academic audit looks the same and includes the right details.

- Nobody wants to spend hours on paperwork. Automation cuts down the time and effort for faculty and coordinators, letting them focus on what matters: teaching and actual academic work.

- All the data sits in one place, so finding old records or comparing performance across years is quick and painless. When audits or inspections happen, everything you need is right there.

- Accreditation can be stressful, but this system helps institutions stay on track. It organizes reports to match what bodies like NAAC and NBA require, making submissions a breeze.

- Transparency matters. By keeping proper records of academic activities and evaluations, the system shows exactly what departments and faculty are up to and holds everyone accountable.

- Finally, these reports aren’t just for show—they offer insights that help management spot problems, plan improvements, tweak curricula, and make smart decisions for the future.

All in all, the Academic Audit Report Generation System makes life a lot easier for colleges trying to handle their audit processes. It takes care of collecting data, checking it, and building reports so people don’t have to do everything by hand. That means fewer mistakes and more consistency. The system also helps colleges meet accreditation standards, keeps things transparent, and makes it simpler to hold everyone accountable. With better data on hand, colleges can actually make smarter decisions and keep raising the bar on academic quality. In the end, it just makes the whole place run better.

1.2 Existing System & Related Work

Before colleges had fully automated systems for generating Academic Audit Reports, they got by with a mix of old-school methods and some digital shortcuts. But as NAAC, NBA, and other accreditation bodies started pushing harder for quality checks, schools scrambled to keep up.

Between 2021 and 2025, a bunch of new tools and systems popped up to help organize and manage all that audit data. These tools definitely made things faster and tidier, but most only tackled parts of the process—not the whole thing.

Next up, I'll break down a few of these recent audit systems, how they work, and where they fall short. It's pretty clear there's still a need for something that covers all the bases and doesn't make users jump through hoops.

➢ Existing Systems-

- Back in 2021, Mehta and Rao rolled out a web-based tool to overhaul the old, paperwork-heavy academic audit process. They built it with PHP, MySQL, HTML, and CSS. Faculty can log in, fill out online forms, and submit all kinds of academic info—course details, how much of the syllabus they've covered, student performance, assessment methods, even department activities. Everything goes straight into a MySQL database, so it's easy to pull department audit reports from standardized templates. It definitely cuts down on paperwork and makes things easier to find. But it's not perfect. The system struggles with weak data checks, too many manual approvals, barely any analytics, and it doesn't play well with accreditation standards.
- In 2022, Kulkarni and Joshi came up with a cloud-based system to keep track of academic quality across different institutions. Their idea was pretty simple: collect all the important stuff—course results, student performance, faculty evaluations, and department activities—in one place using secure web tools and REST APIs. Everything gets stored on the cloud. Administrators get visual dashboards that show

how the institution's doing at a glance. Plus, since it's all in the cloud, the system can handle more users easily, and schools don't have to worry so much about buying or maintaining hardware. But it's not perfect. The system really needs a steady internet connection, and it doesn't let users customize reports much. Data security's another concern, and it still doesn't fully automate audit report generation. So, there's room for improvement.

- Sharma and Verma built an academic audit support system back in 2023, zeroing in on what schools need to get accredited by groups like NAAC and NBA. They used Java, Spring Boot, and PostgreSQL to put it together. The system makes it easier for people to enter info—curriculum stuff, course outcomes, student awards, faculty backgrounds, and all those details the accreditors care about. The big win? It spits out audit-ready documents that actually match the accreditation requirements, so schools don't waste so much time prepping. Still, it's not perfect. The report templates are pretty stiff, faculty don't find it all that user-friendly, there's no real-time data checking, and reusing data for future audits is a pain.

- Patil and Deshpande came up with an institution-level academic audit information system in 2024, built on the MERN stack. They used a React interface with a Node.js and Express backend, and all the academic data lands in MongoDB. The system pulls together details about courses, student performance, faculty activities, and department achievements. It helps with audit reporting at both the department and institution level. Still, even with its modern setup, the interface isn't exactly user-friendly—you need technical training to use it. Offline features are pretty limited, and it doesn't give you automated year-by-year performance comparisons.

- Back in 2025, Gupta and Singh saw how fast artificial intelligence was moving and came up with an idea: an AI-powered tool to help with academic audit reports. They built it around Python-based machine learning and cloud analytics, so the tool could dig into huge piles of academic data—student grades, course outcomes, faculty work, and all those big institutional stats. The tool doesn't just crunch numbers; it actually spits out smart audit summaries and calls out important trends and performance highlights. That kind of insight really helps people make better decisions, especially in big, complicated institutions. But it's not all smooth sailing. The costs to get this thing up and running are pretty high. Plus, you need solid, reliable data or else the results don't mean much

Sr. No.	System Name	Author(s)	Year	Technology Used	Key Features	Major Limitations
1	Web-Based Academic Audit Management System	A. Mehta, S. Rao	2021	PHP, MySQL, HTML, CSS	Online data entry, department-wise reports, basic templates	Limited data validation, manual approvals, no analytics
2	Cloud-Enabled Academic Quality Monitoring System	R. Kulkarni, N. Joshi	2022	Cloud Storage, REST APIs, SQL	Multi-department access, centralized storage, basic dashboards	Internet dependency, limited report customization, security concerns, partial automation
3	Academic Audit Support System for Accreditation	P. Sharma, K. Verma	2023	Java, Spring Boot, PostgreSQL	NAAC/NBA-focused data collection, audit-ready documents	Rigid templates, complex usability, no real-time validation,
4	Institution -Level Academic Audit Information System	S. Patil, M. Deshpande	2024	MERN Stack	Centralized institutional data, department & institute reports	Complex UI, training required, limited offline access, no year-wise comparison
5	AI-Assisted Academic Audit Reporting Tool	N. Gupta, A. Singh	2025	Python, ML Models, Cloud Analytics	Automated summaries, KPI analysis, improvement suggestions	High cost, data dependency, lack of transparency, not suitable for small colleges

Table 1.1: Existing Systems (2021-2025)

Looking at current academic audit systems, you see some progress—people have worked to digitize and automate parts of the process. A lot of tools now live on the web, use the cloud, or even have some AI to help with storing data and basic reports.

That’s all good, but real problems remain. Data validation is still weak, the interfaces are often confusing, and full automation isn’t really there yet. Plus, the price tags can be steep, and most systems just can’t handle tracking performance over several years.

Another headache: many platforms don’t let you customize report formats, and they struggle to keep up with changing accreditation standards like NAAC and NBA. So, it’s pretty clear—colleges need a better solution. Something that’s easy to use, flexible, covers all the bases, and doesn’t break the bank.

1.3 Overview of Proposed System

The proposed Academic Audit Report Generation System is a web-based application designed to automate the collection, validation, processing, and generation of academic audit reports in colleges. The system provides role-based access to faculty and coordinators for structured data entry, centralized data management, and automatic generation of standardized audit reports in PDF or DOCX format. It ensures accuracy, consistency, and compliance with accreditation requirements such as NAAC and NBA while reducing manual effort and improving efficiency.

➢ What problem does the system solve?

Let’s be honest—preparing academic audit reports the old way is a mess. Colleges end up juggling piles of paper records or spreadsheets from different departments. That means data everywhere, numbers that don’t quite add up, people doing the same work twice, and reports that always seem to run late. And when someone needs to look at last year’s reports for accreditation? Good luck finding all those files. This system cuts through all that chaos. Eliminates manual and time-consuming preparation of academic audit reports

- Reduces data inconsistency, calculation errors, and duplication of work
- Solves the problem of scattered and unorganized academic data
- Makes retrieval of previous years’ audit records easy
- Ensures standardization and accuracy in academic audit reporting

It pulls academic data into one place, checks for mistakes as you go, and takes care of the heavy lifting when it's time to generate those reports. Everything comes out clean, consistent, and ready to go.

➢ What are its main functions?

The system keeps things organized. It lets faculty and coordinators enter data in a way that matches their roles, checks for errors right away, and keeps all the information in one spot. Once the data's in, the system does the processing for you and spits out reports in formats like PDF or DOCX—no more wrestling with templates. It's built to match the standards for NAAC and NBA accreditation, so you're already a step ahead there.

- Provides structured and role-based data entry for faculty and coordinators
- Performs real-time data validation and error checking
- Stores academic audit data in a centralized and secure database
- Automatically generates standardized audit reports in PDF/DOCX formats
- Supports NAAC and NBA accreditation requirements
- Enables year-wise data storage and performance analysis

Plus, it keeps track of data year by year, which makes it easy to spot trends and work on improving things over time.

➢ Who will use it and what is the outcome?

Faculty members use it to enter academic and course info. Coordinators handle verification and keep an eye on the process. Administrators or management review the final reports. In the end, everyone gets accurate, up-to-date, and standardized audit reports without all the manual hassle.

- Faculty Members: Enter course, assessment, and academic activity data
- Academic Coordinators: Verify, monitor, and manage departmental data
- Administrators/Management: Review consolidated reports and analytics
- Outcome: Accurate, timely, and standardized academic audit reports, improved transparency, reduced workload, and better academic decision-making

That means more transparency, smoother accreditation, better decisions, and, really, a stronger academic environment for everyone involved.

Chapter 2

ACADEMIC AUDIT REPORT GENERATION SYSTEM

The workflow process of the Academic Audit Report Generation System aims at optimizing procedures related to the collection, verification, processing, and generation of structured audit reports on academic matters. The process works on an automated set of procedures, eliminating the need for traditional, manually performed steps done by colleges and institutions on academic audits. It begins with data extraction on various departments like student attendance, faculty members, performance, departmental activities, and infrastructure. The extracted data is uploaded or manually entered using a secured user interface.

➢ Aims of the Academic Audit Report Generation System:

- Automate the academic audit process. No more chasing down paperwork or digging through spreadsheets let the system handle collecting, checking, and organizing the data.

- Make reports accurate and consistent. You get error-free, standardized audit reports for every department, so everyone's on the same page.

- Simplify accreditation compliance. The system lines up reports with NAAC, NBA, and other quality standards, so you're always ready when it counts.

- Centralize academic data. Everything audit-related goes in one secure, accessible place—no more scattered files or missing info.

- Boost transparency and accountability. You can track what each department and faculty member is doing, making it easier to see who's responsible for what.

- Let data drive your decisions. The system helps you analyze performance year by year, spot trends, and keep improving academics.

- Save time and resources. Faculty and admins can skip the endless paperwork, repetitive tasks, and manual calculations, and focus on what really matters.

Here’s how the workflow goes for data verification and classification:

First, users fill in academic data using structured forms. The system jumps in right away to check if everything’s accurate, complete, and makes sense. If something’s missing or off, it flags it and lets users know they need to fix it. This way, the audit report stays solid.

Once the data’s clean, the system processes it using the set audit rules. Then it sorts the info into groups—like teaching and learning, research, admin tasks, and those all-important key performance indicators.

- Data Entry: Users enter academic data into the system through structured forms.
- Verification and Validation: The system checks the data for consistency, accuracy, and completeness.
- Gap Identification: Any missing or inaccurate information is flagged, prompting users to correct it for high-quality audit report preparation.
- Data Processing: The system processes the validated data according to predefined audit criteria.
- Data Classification: Academic data is categorized based on areas such as teaching and learning, research outputs, administrative operations, and key performance indicators.
- Structured Report Preparation: The classified data is organized to prepare audit sections automatically without manual formatting.

Finally, the system organizes everything into neat audit sections on its own. No need for users to fuss over formatting.

➢ How our Academic Audit Report Generation System Works:

1. User Authentication Module:

    - Ensures that only authorized faculty members, coordinators, and administrators can access the system.
    - Provides secure login and role-based access for data entry and report management.

2. Department and Data Category Selection:

- Users select the relevant department and type of data to be uploaded, such as faculty information, student performance, course performance, and event reports.

3. Data Collection Module:

   - Allows uploading of documents, filling of forms, or importing spreadsheets.
   - Automatically identifies data fields and checks if the uploaded data complies with required formats.

4. Data Validation Engine:

   - Detects missing entries, duplications, and discrepancies.
   - Sends error notifications to users for rectification before processing.

5. Data Segmentation and Analysis:

   - Validated data is broken into segments according to audit requirements.
   - Numerical data points like pass percentage, research publications, and attendance are analyzed.
   - Summaries, charts, and statistical graphics are generated automatically.

6. Report Generation Module:

   - Uses predefined templates to create the academic audit report.
   - Allows users to preview the report and make necessary customizations via a report editing panel.

7. Report Storage and Export:

   - Final audit reports can be stored within the system for future reference.
   - Supports exporting reports in formats like PDF or DOCX.
   - Enables easy comparison of academic data across multiple years.
   - Reduces human errors while following standard audit formats.

This sequential workflow ensures accurate, standardized, and efficient preparation, storage, and retrieval of academic audit reports while minimizing manual effort and errors.

2.1 Functional Modules

The Academic Audit Report Generation System runs on a set of functional modules, each one handling its own job in the workflow. They don't just work one after another—they actually team up to keep everything running smoothly and make sure the audit data gets handled right.

- Here's how it breaks down:

There's a User Authentication Module that keeps access secure. Next, the Data Collection Module lets you upload information about faculty, students, and courses. The Data Validation Module checks for errors or weird inconsistencies. After that, the Data Analysis Module takes over, crunching numbers and organizing data so it's easy to understand. When it's time to wrap things up, the Report Generation Module creates standardized audit reports, and finally, the Storage & Export Module saves and exports those finished reports. Splitting the system into these modules makes it a lot easier to manage, update, or even expand later. Plus, it helps the system stay accurate, consistent, and in line with accreditation standards.

Functional Modules in Academic Audit Report Generation System:

- User Authentication Module: Handles login and role-based access.
- Data Collection Module: Manages uploading of faculty, student, and course data.
- Data Validation Module: Checks for errors, missing entries, and duplicates.
- Data Analysis Module: Processes and analyzes numerical and categorical data.
- Report Generation Module: Creates audit reports using predefined templates.
- Storage & Export Module: Stores final reports and allows exporting in PDF/DOCX.

One of the major modules of the system is the User Management Module. This module manages user authentication and authorization. The different users like administrators, faculty members, department heads, and auditors will have role-based access. The module offers secure login, user profile management, and controlled access to system functionalities in order to keep data confidentiality and integrity.

The Data Collection Module encompasses the collection of academic information that is essentially required for the auditing process. It includes faculty qualifications, student performance, course outcomes, research activities, infrastructure, and institutional policies. Manually, it can be filled through forms, or in predefined formats, the uploading can be done. It makes the module put on record all vital academic data in a systematic manner in the database.

Data Validation Module part of the system double-checks everything you put in. It makes sure all the data is accurate, complete, and lines up properly. If there's something missing, a weird format, or the same entry pops up twice, the module catches it right away. By flagging these problems early, it stops bad or incomplete data from sneaking through, so you end up with solid, reliable audit reports.

Data Analysis Module Once the data's been checked, the Data Analysis Module gets to work. It digs into the numbers—things like pass rates, research stats, and attendance—and looks at categories like faculty roles or different course types. The module then pulls everything together into summaries, tables, and charts. This makes it a lot easier for administrators to see how things are going and spot what needs attention.

Report Generation Module With the data analyzed, this module steps in to create the actual audit reports. It uses ready-made templates to organize everything into sections that match audit guidelines. You can look over the reports and tweak little details if you want, but the end result always looks polished and consistent—exactly what you need for submissions or accreditations.

The Report Generation Module is a backbone in producing standardized academic audit reports. In this module, based on evaluated data, the report generation is done automatically in various formats, like PDF or Excel. These reports are provided with summaries, graphical representations, and detailed analysis, which will be beneficial for management and auditors for decision-making and quality improvement work.

Storage & Export Module Finally, the Storage & Export Module keeps all your finished reports safe in one place. You can pull them up whenever you need, or compare them with reports from other years. It's easy to export reports as PDFs or Word documents, So you can share them with whoever needs to see them, or send them off for accreditation without any hassle.

- Interaction Between Modules
  - Data entered through the Data Collection Module is first validated by the Data Validation Module.
  - Validated data is then processed by the Data Analysis Module, generating summaries, statistics, and charts.
  - The Report Generation Module uses the analyzed data to create structured audit reports.
  - The Storage & Export Module stores the final reports and allows exporting in PDF or DOCX format.
- Inputs and Outputs of Each Module
  - Data Collection Module: Input → faculty, student, and course data; Output → structured data.
  - Data Validation Module: Input → structured data; Output → validated and error-free data.
  - Data Analysis Module: Input → validated data; Output → statistical summaries and graphical representations.
  - Report Generation Module: Input → analyzed data; Output → formatted audit reports.
  - Storage & Export Module: Input → final reports; Output → stored reports and exported PDF/DOCX files.
- Role of Users in Each Module
  - Faculty: Enters data in the Data Collection Module.
  - Coordinators/Administrators: Verify and monitor data through the Data Validation Module.
  - Administrators: Review, customize, and store/export reports via the Report Generation and Storage Modules.
- Advantages of Modular Design
  - Easier maintenance and debugging since each module handles a specific task.
  - Scalability: new modules or features can be added without affecting existing ones.

- Clear workflow and responsibility assignment across modules.
- Errors can be isolated and corrected within a single module.

➢ Flow Between Modules

- Sequential Path: Authentication → Data Collection → Data Validation → Data Analysis → Report Generation → Storage & Export
- Ensures standardized, efficient, and error-free report generation.

It supports data-driven decision-making and improves transparency in the audit process.

2.2 System Workflow

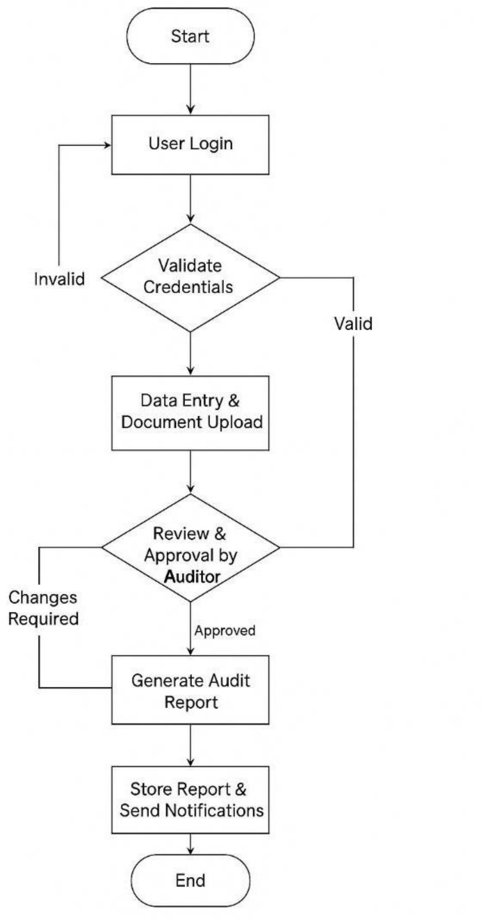


Fig. 2.1: Academic Audit Report Generation System Workflow

1. Initiate

This marks the initialization of the audit management process. The system is brought into existence and waits on the user's interaction.

2. User Log in

The user at this stage is an employee or representative of an organization trying to log in to the system using valid login credentials, such as a username and password or other authentication details.

- Purpose:
  - In view of the fact that only authorized users can use the audit system.

3. Check Credentials (Decision Node)

The entered login credentials are crosschecked by the system against the stored database.

- Invalid Credentials:
  - Access is denied by the system.
  - The user is taken back to the User Login page.
  - This blocks unauthorized access and provides security to the system.
- Valid Credentials:
  - The user is authenticated successfully.
  - The system allows access to the next stage.
- Purpose:
  - The authentication will be enforced to protect the sensitive audit data.

4. Data Entry & Document Upload

Upon successful login, the user enters information related to an audit:

- Company or department information
- Compliance data
- Any financial or operational information

The user also uploads the supporting documents, such as:

- Bills
- Certificates
- Reports
- Policy documents

Overview:

Data collection involves the gathering of complete and accurate data relevant to the audit process.

5. Audit Criteria Rating

The system assesses the data and documents submitted for conformity with predefined rules and standards of auditing.

This may include:

- Completeness check of data
- Document format verification
- Data matching is: Matching data against audit criteria or regulations

➢ Purpose:

- Pre-audit check: This ensures that the information submitted will meet the audit requirements before manual review.

6. Review & Approval by Auditor (Decision Node)

An auditor examines the data that has been collected and all documentation or records of any kind.

➢ Changes Needed:

- The auditor identifies such mistakes, omissions, or failing to comply with something.
- Feedbacks are then sent to the user.
- The process loops back to Data Entry & Document Upload for corrections.

➢ Approved:

- The auditor completes an audit and ensures the application of all audit requirements.
- It will proceed to generate reports.

- Purpose:
    - To implement human validation for keeping the record intact and ensuring the audit record's accuracy and credibility.

7. Audit Report Generation

After approval, the system automatically generates an audit report.

The report can include:

- Audit findings
- Status of compliance
- Observations and recommendations
- Final approval details

- Purpose:
    - To formally document audit results in a structured and standardized format.

8. Store Report & Send Notifications

The generated audit report is securely stored in the system database for future reference.

Notifications - by email or system notification - are sent to:

- The User
- Auditors
- Management or stakeholders

- Purpose:
    - So that the record-keeping is done, as well as the need for transparency and timely communication.

8. The end This marks the end of the audit workflow, where after report storage and notification, the process ends in success. Abstract This flowchart represents a secure, structured, and iterative audit process that: Ensures access by authorized persons only. Validates and reviews audit data Allows them to make corrections wherever necessary Creates and maintains records of official audit reports.

2.3 System Architecture

The system architecture for the Audit Management System describes how various components in the Audit Management System interact with each other to conduct secured, efficient, and organized audit practices. The architecture employs a multi-tier architecture design for scalability, security, and maintainability.

➢ Architectural Overview

The system is divided into the following major layers:

1. Presentation Layer (User Interface)
2. Application Layer (Business Logic)
3. Audit & Workflow Engine
4. Database Layer
5. Notification & Reporting Module
6. Security Layer

Each layer has a specific role and communicates with adjacent layers to complete the audit workflow.

➢ Presentation Layer

Description:

- This is the front-end layer with which users and auditors interact.

Users Involved:

- Normal Users (data entry users)
- Auditors
  - Executives

Functions:

- Login interface for user
- Data entry forms

- Upload interface of document
- Tracking the Audit Status
    - Report view and download

Technologies (example):

- Web browser
- HTML, CSS, JavaScript
- Frameworks like React / Angular among others (optional)

Purpose: To provide a user-friendly and interactive interface for all system operations.

➢ Application Layer (Business Logic Layer)

Description:

- This layer processes the user's request and applies business rules.

Functions:

- Validating user credentials
- Handling requests for submission of data
- Upload Document Management
    - Enforcing audit rules and workflows

Responsibilities:

- Ensures proper flow of operations.
- Controls access between users and auditors
- Communicates with database and Audit engine

Purpose: The purpose is to act as a bridge between the user interface and backend services.

➢ Audit & Workflow Engine

Description:

- This is a core component responsible for managing the lifecycle of audits.

Functions:

- Evaluates audit criteria
- Routes data to auditors for review
- Handles Approval or rejection logic
- Sends feedback for changes.

Workflow Control:

- invalid login → ought to redirect to login
- Changes required → Back to data entry
- Verified → Produce audit report

Purpose: Automate the audit process, controlling when it should happen based on a set of predefined rules.

➢ Database Layer

Description:

- It will securely store all the data of the system.

Data stored includes:

- User credential
- Audit data entries
- Uploaded documents
- Audit status
  - Audit reports generated

Database Examples:

- MySQL
- PostgreSQL
- MongoDB

Purpose: To guarantee the reliability of data storage and retrieval, as well as data integrity.

➢ Reporting Module

Description:

- This module is responsible for generating audit reports after approval.

Functions:

- Compiling audit results
- Formatting reports (PDF/Excel)
- Storing final reports in database

Purpose: To provide official and standardized audit documentation.

➢ Notification Module

Description:

- This module manages the interaction between the system and the user.

Functions:

- Sends out notifications via email/SMS
- Alerts user about:
- Approval
- Rejection
- Changes Required
- Availability report

Purpose: To regularly inform stakeholders about audit progress and findings.

➢ Layer of Security

Description:

- Security mechanisms across all layers.

Security Features:

User authentication and authorization Role based access control - User/ Auditor/ Admin Secure document handling Storage of encrypted data

Purpose: It ensures that sensitive audit data is protected and unauthorized access is avoided.

- Architectural Advantages Scalable

Supports several users with simultaneous audits. Secure: Safeguards sensitive documents and reports. modular: easier to maintain and upgrade Efficient: Minimizes the manual audit effort by automating it.

It ensures that the proposed system architecture is secure, structured, and automated, integrating user interfaces, business logic, audit evaluation, and reporting mechanisms within a single system.

The Academic Audit Report Generation System runs on a modular architecture that keeps things organized, secure, and ready to grow. Each part—user interface, business logic, database, and report generation—works together smoothly, so information moves easily without getting tangled or repeated. This setup makes it easier to fix issues and keep the system running well. You get reliable performance, tight security for academic data, and audit reports that always match the standards institutions and accreditors expect. It just works the way you need it to.

This architecture covers secure user authentication, controlled access to data, and keeps academic audit information organized. Built-in validation, role-based security, and centralized storage all work together to keep data accurate, reliable, and private.

It leans on asynchronous communication and automation to make everything run smoother and make life easier for users. The setup isn't rigid, either. It can handle new audit rules, changing accreditation standards, or even more users down the road.

In short, this system does what the Academic Audit Report Generation System needs—both the basics and the tougher requirements. It gives you a strong base for managing academic audits and making solid decisions.

Chapter 3

TECHNOLOGICAL STACK

Building the Academic Audit Report Generation System all starts with picking the right technology stack. That means deciding on the tools, programming languages, frameworks, and databases that'll power the whole thing. Maintenance gets easier, and reports get generated and processed quickly. In the end, the tech choices you make shape how well everything works.

The Academic Audit Report Generation System runs on a set of carefully chosen technologies that work together to handle data smoothly, keep things secure, and automate report creation. Each part plays a role—making the system easy to use, locking down data, and turning complex info into neat, standardized audit reports.

3.1 Technologies Used

- Frontend Technologies

The frontend is all about making life easier for faculty, coordinators, and admins. It's simple, responsive, and just feels natural to navigate. HTML shapes the pages—forms, tables, you name it. It's the backbone of every section you see. CSS steps in to make everything look sharp and consistent, so users don't have to guess where things are. JavaScript makes the site come alive. It checks forms, updates content on the fly, and keeps things interactive, so users aren't stuck waiting or refreshing pages.

- Backend Technology

The backend handles all the heavy lifting—logic, data processing, and keeping the connection with the database secure. PHP runs the show here. It checks who's logging in, validates the info, processes audit data, sends out OTPs, and puts together the reports. It talks to the database and any outside services smoothly, so everything just works.

- Database Technology

MySQL is where all the data lives—faculty info, student performance, course details, uploads, and finished audit reports. It keeps everything consistent and easy to grab, even when you're looking back over several years.

- Asynchronous Communication Technology

AJAX keeps things moving fast by letting the client and server talk in the background. You get real-time checks, quick data submissions, and speedy responses without constantly reloading the page.

- Security and Authentication Technologies

Security's a big deal here. The system uses a couple of solid tools to keep things locked down. PHPMailer handles OTPs—sending one-time passwords to registered emails whenever someone logs in or tries something sensitive. It's a simple but effective way to make sure the right people get access. Role-Based Authentication keeps everyone in their lane. Faculty, coordinators, and admins only see what they're supposed to see.

- Report Generation Technology

DOMPDF takes care of turning HTML content into polished PDF reports, following set templates. The result? Every report looks clean, matches audit standards, and can be shared or stored without fuss.

1. HTML (HyperText Markup Language)

HTML is employed as the fundamental markup language tool for designing the web pages of the Audit Management System. It basically constitutes the fundamental structure upon which the entire application interface is developed. The different elements of HTML are employed to design different components such as login pages, data entry pages, document upload pages, dashboards, as well as the report viewing page. The employment of a structured tool such as HTML ensures that the different pieces of information available within the application are properly organized in a manner that is easily accessible to the user.

- Role in the Project

The use of HTML is fundamental in designing the overall structure of all web pages within the Audit Management System. It includes the definition of such vital elements as the form for user login, fields for entering data, upload links for documents, links for the presentation of audit results in table formats, as well as links for the display of audit reports. The system uses HTML to ensure that information is well structured for accessibility by the user and auditors.

- ➢ Advantages
    - Easy to learn and implement
    - Universally supported by all browsers
    - Provides a basis for all web applications

2. CSS (Cascading Style Sheets)

CSS is used for managing the display presentation and alignment of the Audit Management System. It is used for making enhancements in the look of web pages, including colors, fonts, padding, and alignment. CSS is also used for designing responsive layouts that can be adjusted aptly on varying screen sizes. CSS helps make changes in design easier to implement, as design is separated from content. CSS is used for making changes in design, resulting in a clean, professional, and attractive look of the user interface, which enhances the user experience greatly.

- ➢ Role in the Project

CSS is tasked with designing the layouts of web pages on the system. CSS is responsible for handling such visual components as colors, fonts, padding, alignment, and layout. Additionally, CSS is used in designing responsive layouts, which are adaptable to different screen sizes.

- ➢ Advantages
    - Decouples presentation from content
    - Enables consistent design throughout the application
    - Enhances user interfaces and aesthetics

3. JavaScript

JavaScript is used for making the client side of the application interactive. It provides real-time validation of the form, which helps the user enter the right information before submitting it to the server. JavaScript also takes care of dynamic components such as dropdown menus, popup messages, and interactive buttons, which make the application more user-friendly. The use of JavaScript for validation helps reduce unnecessary requests from the client to the server, thereby making the application faster.

➢ Role in the Project

The client-side interactivity and dynamic capabilities are provided by JavaScript. It is responsible for form validation, user actions, and rendering dynamic functionality on websites that don't reload with every click. It improves the responsiveness of a system, ensuring a smoother user experience.

➢ Advantages

- Reduces server load because work is being performed on the client side
- Increases system responsiveness
- Improves overall user experience

4. AJAX (Asynchronous JavaScript & XML)

AJAX is employed to facilitate asynchronous client-server interactions that do not need reloading of the page. In the Audit Management System, AJAX is employed to submit form information, fetch updates on audit status, as well as display auditor responses. This helps users navigate the system with efficiency, as they are also updated on a real-time basis. AJAX enhances the efficiency of applications by reducing the amount of data that has to be transferred, thereby faster response times. It is vital in making the system more interactive.

➢ Role in the Project

The use of AJAX helps in creating a situation where the client, as well as the server, can communicate with each other asynchronously. The use of AJAX is common in the application as it helps in form submission, acquiring audit status, as well as making feedback.

➢ Advantages

- Speedier data transfer
- Seamless user interactions
- Enhances Performance and Usability

5. PHP (Hypertext Processor)

PHP is used as a server-side scripting language to develop the fundamental logic of the Audit Management System. It takes care of critical back-office tasks such as user authentication, authorization, handling sessions, and handling form data. PHP scripts are responsible for handling data validations, document upload handling, audit workflow logic, and audit reporting. PHP is used to enable safe interactions with the MySQL database. PHP is open source and highly compatible with web servers, making it a robust tool for efficient back-office development.

- Role in the Project

The server-side scripting language used is PHP, which is employed to facilitate the implementation of basic functionalities on the back end. It is responsible for user authentication, handling form submissions, document upload, audit workflow logic, and database interactions.

- Advantages

Open Source; Free Simple Integration with MySQL Supported on most web servers 6. MySQL MySQL is used as the relational database management system to store and maintain all the system data. It provides a secured mechanism for storing user credentials, audit data, details of uploaded documents, audit status, and reports generated.

The database is convertible to structured tables with necessary links for ensuring integrity and continuity of the database. The database is scalable, hence useful in storing a huge amount of audit trail data, supported by the relational database management system, which is reliable and efficient.

Role in the Project The backend database that manages the storage of system data is handled by MySQL. It is used to store user credentials, audit logs, upload document details, audit status, and generated reports. Benefits Reliable and Scalable Database System Supports storage of structured, relational data High performance in retrieval, storage, and management of data.

Technology	Role in the Project	Advantages
HTML	Used to create the basic structure and layout of web pages. It defines login forms, data entry pages, document upload sections, tables, and report display interfaces.	Simple and easy to use, widely supported by browsers, forms the foundation of all web pages.
CSS	Responsible for styling and designing the web pages. It controls colors, fonts, layouts, spacing, and ensures responsive design across devices.	Separates design from content, provides consistent styling, improves visual appeal and user experience.
JavaScript	Adds interactivity and dynamic behavior to the application. Performs client-side validation, handles user actions, and updates content dynamically.	Reduces server load, improves responsiveness, enhances user interaction.
AJAX	Enables asynchronous communication between client and server. Used to submit forms, retrieve audit status, and display feedback without page reload.	Faster data exchange, seamless user experience, improves system performance.
PHP	Acts as the server-side scripting language. Handles authentication, form processing, document uploads, audit workflow logic, and database communication.	Open-source, easy integration with MySQL, widely supported and flexible.
MySQL	Serves as the backend database to store user credentials, audit data, documents, reports, and status information securely.	Reliable and scalable, supports structured data storage, efficient data retrieval.

Table 3.1: Technologies Used

3.2 Database Design & ER Diagram

The Audit Management System includes database design as a crucial part to handle storage, retrieval, and management of audit-related data efficiently. This system uses MySQL as the relational database backend as MySQL ensures the consistency, integrity, and security of the data.

User details, auditors, audit details, uploaded documents, review of audits, and report generation are just but a few information stored in the database.

➢ Major Database Tables

1. User Table

Stores information about system users and auditors.

Field Name	Description
user_id (PK)	Unique user identifier
username	User login name
password	Encrypted password
role	User role (User/Auditor/Admin)
email	User email address

Table 3.2: User Database

2. Audit Table

Stores audit-related information submitted by users.

Field Name	Description
audit_id (PK)	Unique audit identifier
user_id (FK)	Reference to User Table
Audit Title	Aduit Name or Title
Audit Date	Date of Audit Submission

Table 3.3: Audit Database

3. Document Table

Stores details of uploaded documents related to audits.

Field Name	Description
document_id (PK)	Unique document identifier
audit_id (FK)	Reference to Audit Table
File Name	Uploaded File Name
Upload_date	Date of Upload

Table 3.4: Document Database

4. Review Table

Stores auditor review details and feedback.

Field Name	Description
review_id (PK)	Unique review identifier
audit_id (FK)	Reference to Audit table
auditor_id (FK)	Reference to User table
Comments	Auditor remarks
review_status	Approved / Changes Required

Table 3.5: Review Database

5. Report Table

Stores generated audit reports.

Field Name	Description
report_id (PK)	Unique report identifier
audit_id (FK)	Reference to Audit table
report_path	Location of report file
generated_date	Report generation date

Table 3.6: Report Database

- ➢ Entity Relationship (ER) Diagram

The Entity Relationship (ER) Diagram is used to describe the structure of the database, including the relationship that different entities have with regard to the Audit Management System.

Entities Identified -

- User
- Audit
- Document
- Review
- Report

Relationships -

- User can conduct multiple Audits (One-to-Many Relationship).
- An Audit can have multiple Documents (One-to-Many).
- An Audit is reviewed by an Auditor (One-to-One/One-to-Many Relationship).
- An Audit gives rise to only One Report after approval (One-to-One).

ER Diagram Description -

- The User entity is connected to the Audit entity via user_id
- The Audit entity is connected to the Document, Review, and Report entities via audit_id
- Primary keys are used to uniquely identify an entity
- Foreign keys preserve referential integrity across tables

Benefits of the Database Design -

- Reduces Redundancy in
- Ensures Data Consistency & Integrity
- Enables Reliable & Organized Storage of Data
- Enhances system performance & scalability
- Easy to maintain and extend

The design of the database for the Audit Management System helps in organizing the audit-related data in a highly efficient manner. The ER diagram helps in clearly identifying the relation between various entities, thus ensuring a proper flow of different modular components of the system. Such a highly organized database design helps significantly in ensuring the efficiency of the system.

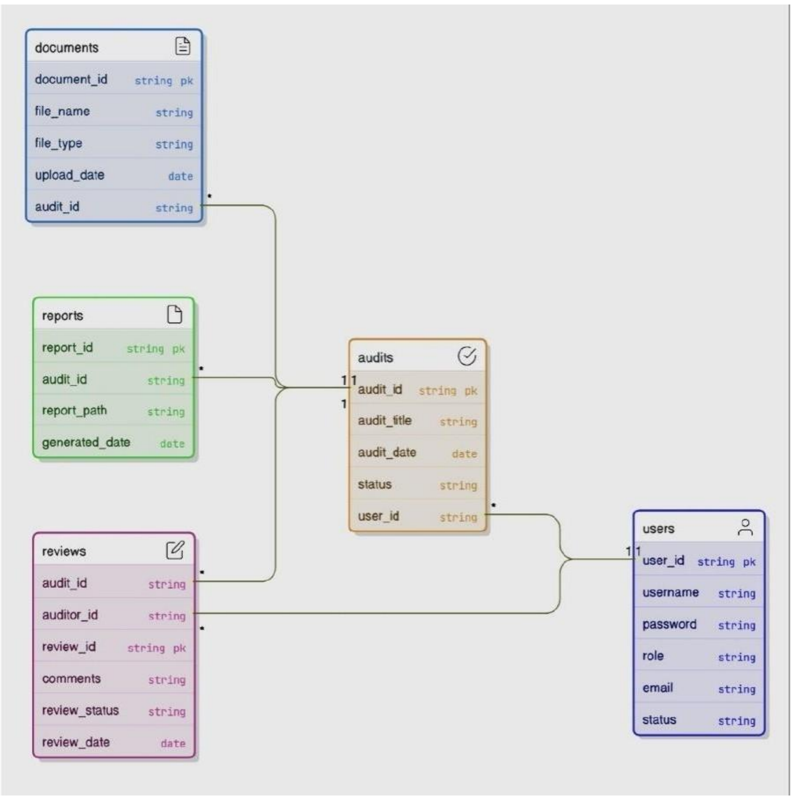


Fig. 3.1: ER Diagram

Main Entities and Key Attributes

1. User

The User entity represents all individuals who interact with the system, including normal users, auditors, and administrators.

➢ Key Attributes:

- user_id (PK) – Unique identifier for each user
- username – Login name of the user
- password – Encrypted password
- role – User role (User / Auditor / Admin)
- email – User email address

- status – Active or inactive account status

2. Audit

The Audit entity stores details of audits submitted by users.

➢ Key Attributes:

- audit_id (PK) – Unique audit identifier
- user_id (FK) – References the User who submitted the audit
- audit_title – Name or title of the audit
- audit_date – Date of audit submission
- status – Current audit status (Pending / Approved / Changes Required)

3. Document

The Document entity stores information about files uploaded during the audit process.

➢ Key Attributes:

- document_id (PK) – Unique document identifier
- audit_id (FK) – References the associated audit
- file_name – Name of the uploaded file
- file_type – Type/format of the document
- upload_date – Date of document upload

4. Review

The Review entity represents the auditor's evaluation of an audit.

➢ Key Attributes:

- review_id (PK) – Unique review identifier
- audit_id (FK) – References the audit being reviewed
- auditor_id (FK) – References the auditor (User)
- comments – Auditor feedback or remarks
- review_status – Approved / Changes Required
- review_date – Date of review

5. Report

The Report entity stores the final audit report generated after approval.

➢ Key Attributes:

- report_id (PK) – Unique report identifier
- audit_id (FK) – References the approved audit
- report_path – File path/location of the report
- generated_date – Date the report was generated

3.3 Use Case Diagram

A Use Case Diagram shows how people or other systems—known as actors—interact with a system. It lays out who's involved, what they do, and how they work with the system to get things done. Think of it as a snapshot of the main players and their goals. This kind of diagram matters a lot in system analysis and design because it puts you in the user's shoes. Developers get a clear picture of what the system needs to do before they build anything. Take the Academic Audit Management System, for example. Its Use Case Diagram lays out how faculty, auditors, and admins use the system for audit tasks. They submit audit data, upload documents, review information, generate reports, and get notifications. In short, the diagram connects what the system should do with how it'll actually work once it's built.

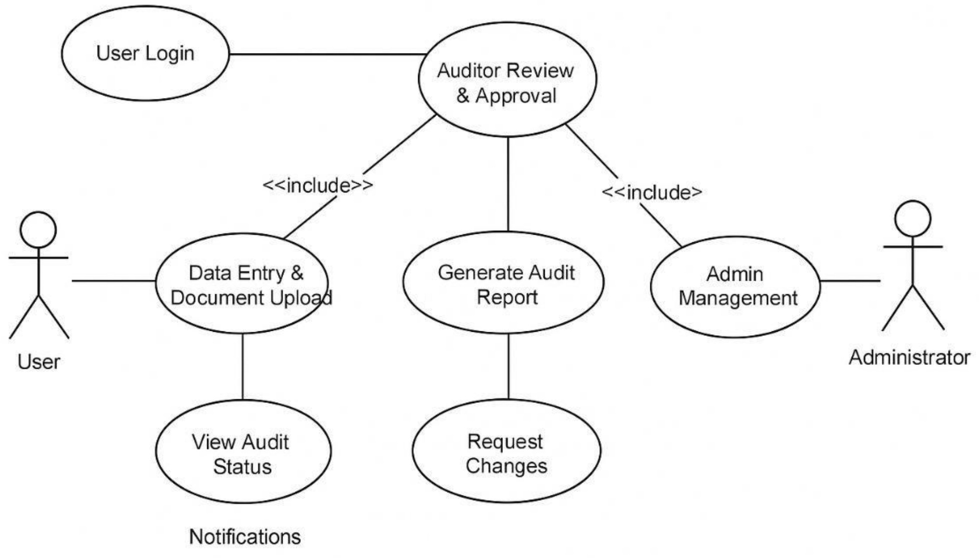


Fig. 3.2: Use Case Diagram

- Actors

Actors represent external entities that interact with the system. For this system, the primary actors are:

1. User (Employee / Organization Representative)
   - Performs data entry for audits
   - Uploads supporting documents
   - Tracks audit status and views generated reports
2. Auditor
   - Reviews submitted audits
   - Approves or requests changes to audit data
   - Provides comments and feedback
3. Administrator
   - Manages user accounts and roles
   - Monitors system activity and ensures security
   - Configures system settings

- Use Cases

A use case represents a distinct functionality or service provided by the system. The main use cases of the Audit Management System include:

- User Login – Allows secure authentication and access to system functionalities.
- Data Entry & Document Upload – Enables users to submit audit information and upload supporting files.
- Audit Criteria Evaluation – System automatically checks submitted data against predefined audit rules.
- Auditor Review & Approval – Auditor reviews data, requests changes, or approves audits.
- Generate Audit Report – Generates standardized audit reports based on approved data.
- View Audit Status – Users can track the progress of their audit submissions.

- Notifications – Sends alerts regarding approvals, rejections, or required changes.
- Admin Management – Administrator manages users, roles, and system security.

➢ Relationships

- Association – Shows interactions between actors and use cases.
- Include – Represents common functionality shared across multiple use cases. Example: Audit Criteria Evaluation may be included in Generate Audit Report.
- Extend – Represents optional or conditional functionality. Example: Request Changes extends Auditor Review & Approval when errors are found.

➢ Benefits of Use Case Diagram

- Provides a high-level understanding of system functionality.
- Helps in identifying all user interactions with the system.
- Assists in requirement gathering and ensures that no functional aspect is missed.
- Serves as a reference for module design, testing, and validation.
- Improves communication between developers, stakeholders, and users by offering a visual overview of system operations.

The Audit Management System Use Case Diagram graphically depicts interactions between the system and its primary actors: User, Auditor, and Administrator. It shows the main functions of the system as use cases: User Login, Data Entry & Document Upload, Audit Criteria Evaluation, Auditor Review & Approval, Generate Audit Report, View Audit Status, Request Changes, Notifications, and Admin Management.

Associations link an actor to the use cases they interact with, while include and extend relationships detail shared and conditional relationships, such as Auditor Review & Approval includes Generate Audit Report and Request Changes extends the review process in the case of modifications.

This diagram succinctly illustrates the workflow the system will go through to show how different actors engage with specific system operations. It serves as a reference to understand functional requirements, module design, and automation of audit processes.

Chapter 4

RESULTS & TESTING

Once we finished building the Academic Audit Report Generation System, it was time to see how it actually worked. We wanted to know if the thing was fast, accurate, and reliable, so we ran it through a bunch of different tests. We checked every part—user logins, entering data, making sure the data was right, analyzing, pulling together reports, and exporting them. Everything had to work, no excuses. And honestly, the results looked good. The system cranked out audit reports that were not just accurate, but also followed a standard format. Plus, it cut down on mistakes and made the whole process way less manual. In short, it did exactly what we built it to do, and handled regular workloads without a hitch.

We ran a bunch of tests to make sure the system stays reliable no matter what you throw at it. Every module played nicely with the others, and the outputs lined up with what we expected. Security got a lot of attention. If someone tried to log in with bad credentials, the system shut them out and showed a clear error, but didn't spill any sensitive info. Even when users made mistakes with data entry, the system flagged it and kept everything clean, which helped protect the integrity of the entire audit process.

Performance-wise, the system kept up just fine during everyday use. Logins happened quickly, and even when we processed a stack of records, audit reports came out fast. Uploading really big documents slowed things down a bit, but it never caused a crash or messed with the data. Through it all, the system stayed steady and reliable—no data loss, no instability—which makes it a good fit for real academic environments. All in all, testing showed that the Academic Audit Report Generation System is stable, secure, and easy to use.

The results we got matched what we expected, proving the system was built right. We ironed out a few minor issues along the way, but nothing major. In the end, the system stands ready to deliver fast, dependable academic audit management.

4.1 Output Demonstration

Here’s what happens when you run the Academic Audit Report Generation System: Once you log in with your credentials, you land on the dashboard. From there, you can jump right into entering academic data, uploading documents, running an audit evaluation, or generating reports. You enter details about courses, faculty, and compliance requirements, and the system saves everything securely. It handles inputs and storage smoothly, without any hiccups.

The output demo for the Academic Audit Report Generation System shows that everything works as it should. Once you log in with the right credentials, you land on a dashboard that’s easy to navigate. From there, you can jump into different parts of the system, like entering academic data, uploading documents, evaluating audits, generating reports, or checking audit status. You can add details ranging from course info and faculty records to student performance and compliance data.

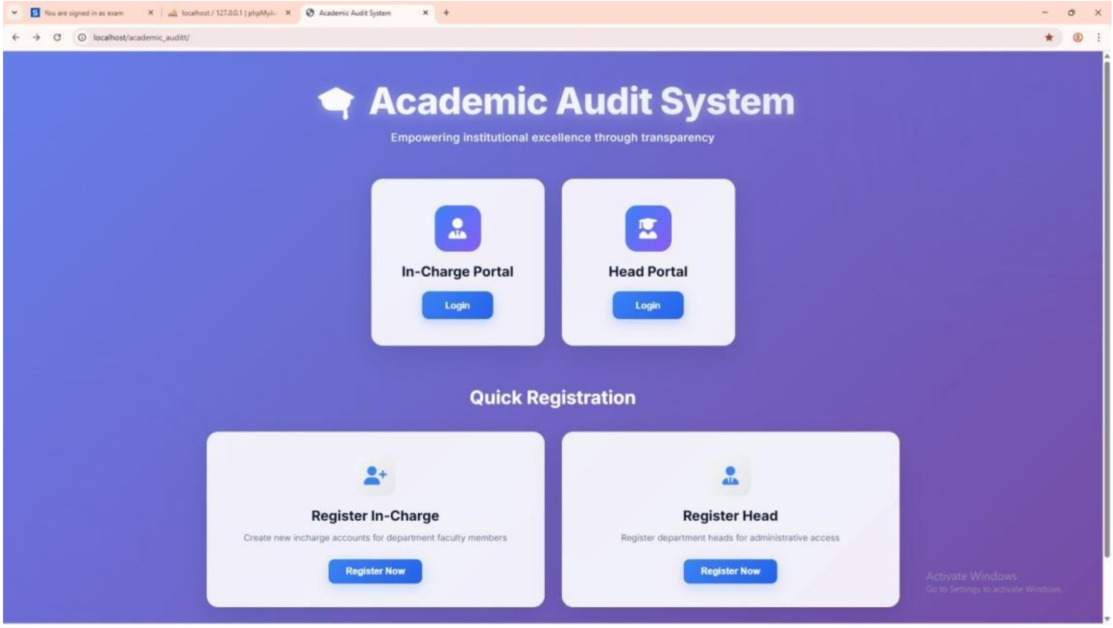
All this information gets stored securely, so you don’t have to worry about consistency or data loss.

- Dashboard

The Academic Audit System dashboard is where everything starts. Right at the top, you’ll see the system’s name—no missing what this platform is here for: keeping things transparent and helping the institution aim higher. The layout stays simple and easy on the eyes, so anyone can find their way around, no matter their role.

You get two main choices when you log in: In-Charge Portal or Head Portal. Just pick the one that fits your job. Each has its own login button, sending you straight to the right spot. This setup keeps things secure and tidy, making sure only the right people see the right information. If you’re new, there’s a Quick Registration section. You can sign up as either an In-Charge or a Head—faculty and department heads both have a straightforward path to create an account. It’s a small thing, but it really helps new users get going without any hassle.

All in all, this dashboard makes it clear: the system is built for usability, keeps things locked down where needed, and lets everyone get straight to what they need for academic audits.


You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Academic Audit System
localhost/academic_auditt/
Academic Audit System
Empowering institutional excellence through transparency
In-Charge Portal
Login
Head Portal
Login
Quick Registration
Register In-Charge
Register Now
Register Head
Register Now
Activate Windows
Go to Settings to activate Windows.

Create new incharge accounts for department faculty members

Register department heads for administrative access

Fig. 4.1: Dashboard Page

➢ Login Page (In-charge/Head)

The In-Charge Login page gives departmental in-charges a secure way to access the Academic Audit System. Right from the start, you pick your role from a dropdown and enter your password—simple, direct, and only for people who belong there. The form sits right in the center of the page, keeping things clean and easy on the eyes. If you forget your password or need to register as a new user, those options are right there, too.

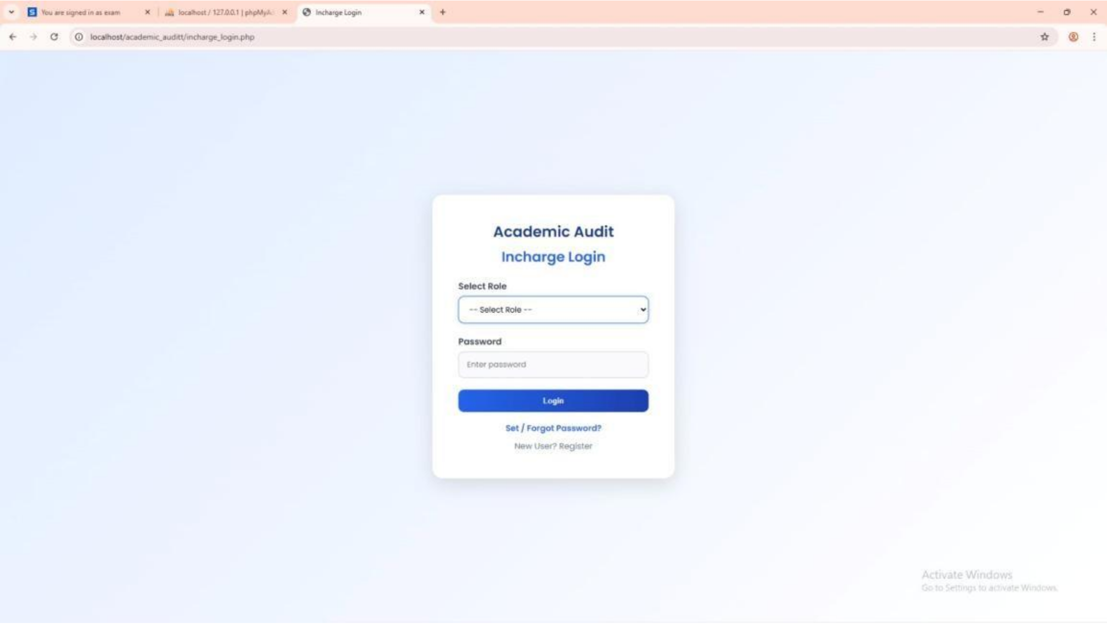
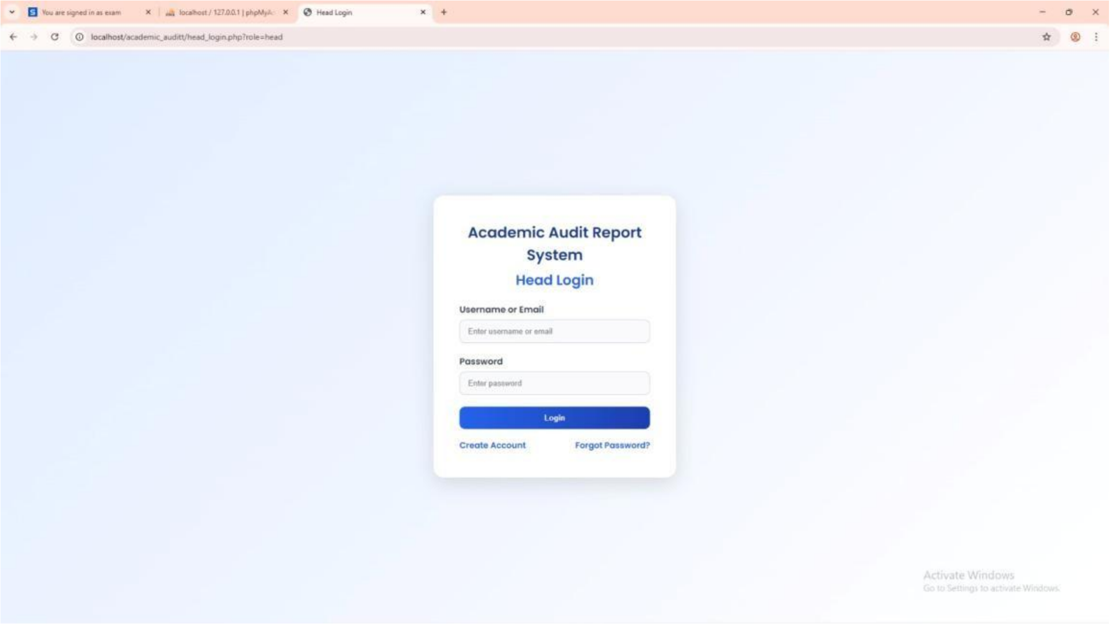


Fig. 4.2: In-charge Login Page

The Head Login page is built for department heads and admins. You log in using your username or email and your password. The design matches the rest of the system, so you won’t get lost. Need to create an account or reset your password? Those links are handy, making onboarding and recovery straightforward. Only authorized heads can get past this gate, which means only they can review submissions, track compliance, and sign off on audit reports.



You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Head Login
localhost/academic_auditt/head_login.php?role=head
Activate Windows
Go to Settings to activate Windows.

Academic Audit Report System

Head Login

Username or Email

Enter username or email

Password

Enter password

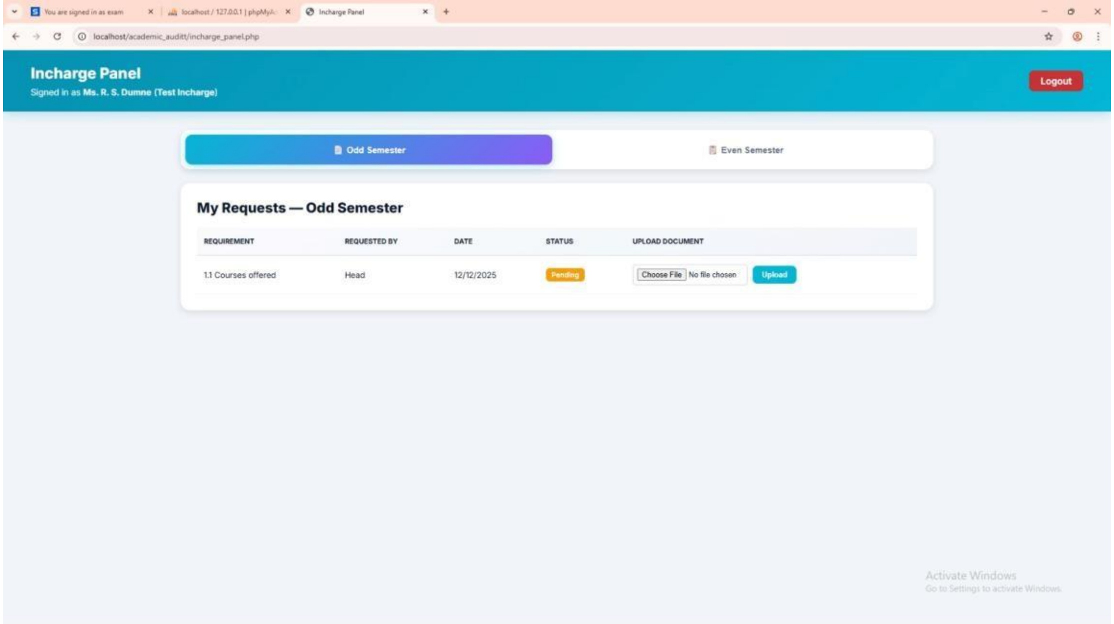
Login
Create Account
Forgot Password?

Fig. 4.3: Head Login Page

- Home Page (In-charge/Head)

The In-Charge Home Page is where departmental in-charges get things done. Right after logging in, they see a panel listing every audit request the department head assigned them, neatly sorted by semester and academic year. Each request shows the key details—what’s needed, who asked for it, when it was requested, and where things stand. It’s all laid out so in-charges can see what’s on their plate and get to work without any guesswork.

Uploading documents for each audit requirement is simple. In-charges just use the panel, and once they’re done, the system updates the status so the head knows right away. Semester tabs keep everything tidy, so nobody has to dig through piles of files. It’s all about making life easier, keeping everyone accountable, and helping the team work together smoothly during academic audits.



You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Incharge Panel
localhost/academic_auditt/incharge_panel.php

Incharge Panel

Signed in as **Ms. R. S. Dumne (Test Incharge)**

Logout
Odd Semester
Even Semester

My Requests — Odd Semester

REQUIREMENT	REQUESTED BY	DATE	STATUS	UPLOAD DOCUMENT
1.1 Courses offered	Head	12/12/2025	Pending	Choose File No file chosen Upload

Activate Windows
Go to Settings to activate Windows.

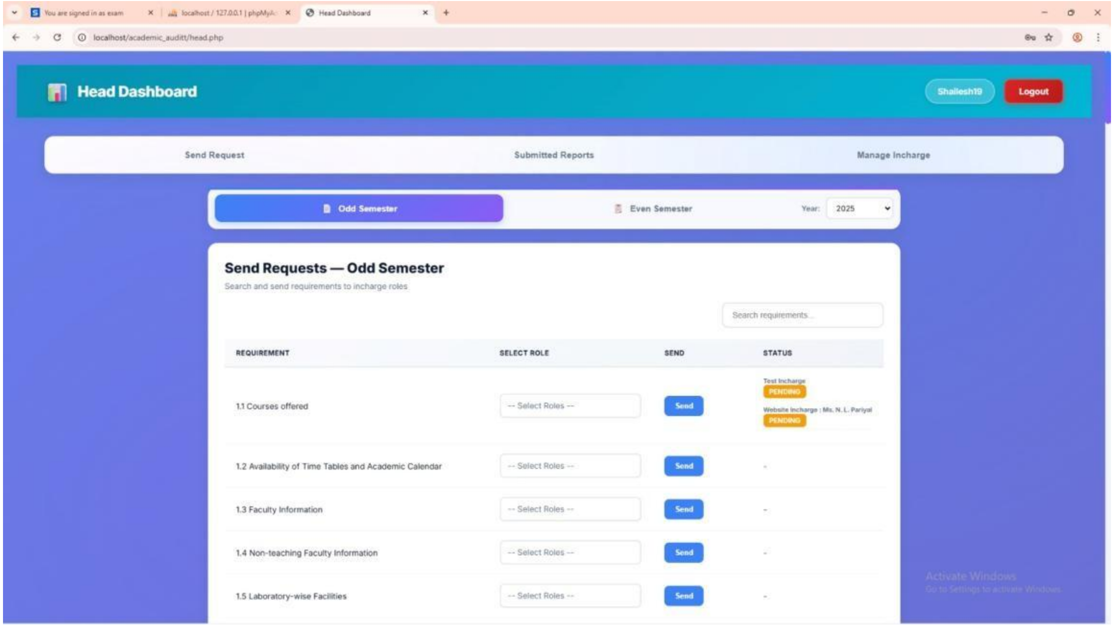
Fig. 4.4: In-charge Home Page

For department heads, the Head Home Page is command central. After logging in, they land on a dashboard with everything they need—sending new requests, checking submitted reports, or managing in-charges. Heads can pick the academic year and semester (odd or even) to keep everything on track and organized.

When it’s time to assign audit requirements—like tracking course offerings, faculty lists, or lab facilities—heads just select the right in-charge for the job. The dashboard shows the status of every request, whether it’s still pending or already done, so heads always know what’s happening.

This page really brings out the system’s strengths: clear roles, open communication, and a smoother workflow between heads and in-charges.

The dashboard allows the head to send audit requirements to specific in-charge roles. Each requirement, such as course offerings, faculty information, or laboratory facilities, can be assigned to a designated in-charge using a role selection option. The status of each request is clearly displayed (e.g., pending or completed), enabling the head to track progress in real time. This page effectively demonstrates the system’s role-based task assignment, transparency, and streamlined communication between department heads and in-charge faculty members.



Send Requests — Odd Semester

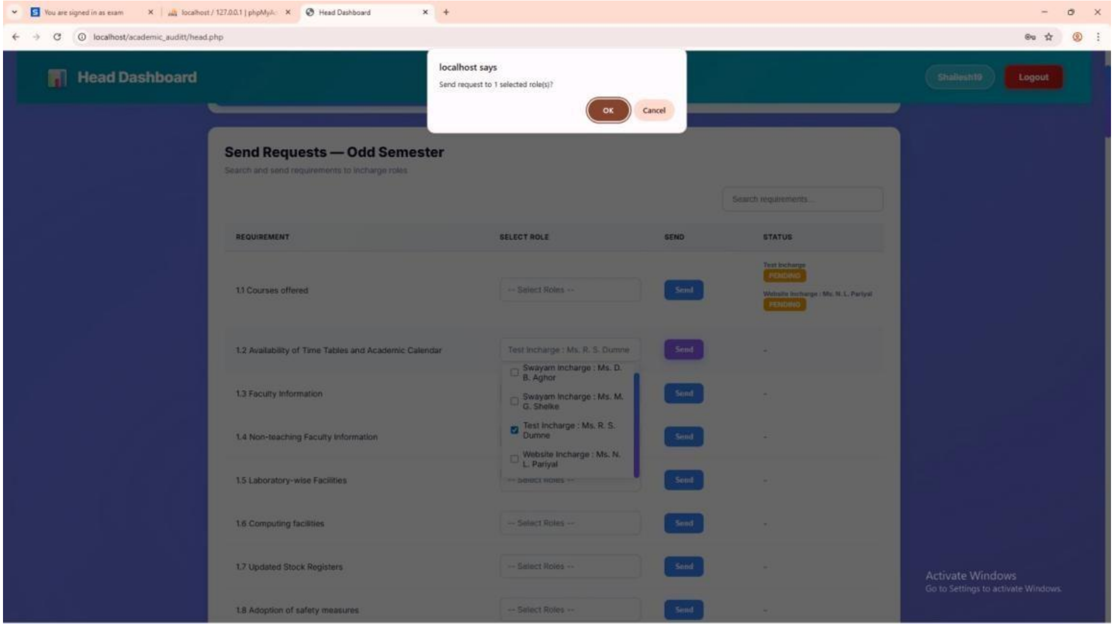
Search and send requirements to incharge roles

REQUIREMENT	SELECT ROLE	SEND	STATUS
1.1 Courses offered	-- Select Roles --	Send	Test Incharge PENDING Website Incharge : Ms. N. L. Pariyal PENDING
1.2 Availability of Time Tables and Academic Calendar	-- Select Roles --	Send	-
1.3 Faculty Information	-- Select Roles --	Send	-
1.4 Non-teaching Faculty Information	-- Select Roles --	Send	-
1.5 Laboratory-wise Facilities	-- Select Roles --	Send	-

Fig. 4.5: Head Home Page

➢ Head Sending Request

The Head Sending Request page gives department heads a straightforward way to assign academic audit tasks to the right in-charge users. You see a list of audit requirements, pick who you want to handle each one, and choose their role. Before sending anything off, the system double-checks with a quick confirmation dialog, just to make sure you're assigning the task to the right person


You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Head Dashboard
localhost/academic_auditt/head.php
Head Dashboard
Shailesh19
Logout
OK
Cancel
Search requirements...
Send

localhost says

Send request to 1 selected role(s)?

Send Requests — Odd Semester

Search and send requirements to incharge roles

REQUIREMENT	SELECT ROLE	SEND	STATUS
1.1 Courses offered	-- Select Roles --	Send	Test Incharge PENDING Website Incharge : Ms. N. L. Pariyal PENDING
1.2 Availability of Time Tables and Academic Calendar	Test Incharge : Ms. R. S. Dumne □ Swayam Incharge : Ms. D. B. Aghor □ Swayam Incharge : Ms. M. G. Shelke ☑ Test Incharge : Ms. R. S. Dumne □ Website Incharge : Ms. N. L. Pariyal	Send	-
1.3 Faculty Information		Send	-
1.4 Non-teaching Faculty Information		Send	-
1.5 Laboratory-wise Facilities	-- Select Roles --	Send	-
1.6 Computing facilities	-- Select Roles --	Send	-
1.7 Updated Stock Registers	-- Select Roles --	Send	-
1.8 Adoption of safety measures	-- Select Roles --	Send	-

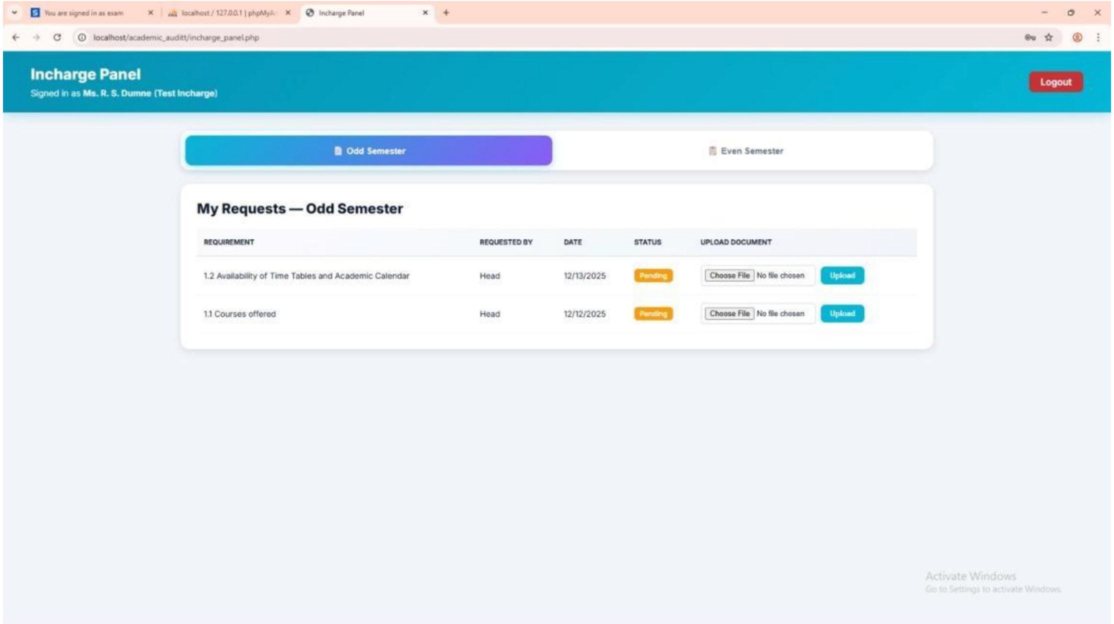
Fig. 4.6: Head Sending Request Page

Once you confirm, the system sends the request and marks the requirement as pending. You can track the status of every request you've assigned, so it's easy to monitor how audits are moving along. The whole setup focuses on role-based task assignment, confirmation before action, and real-time updates—everything you need for smooth academic audit management.

➢ In-charge Request View

Switching over to the In-Charge Request View page, this is where in-charges see all the audit requests the department head assigned to them. It's organized by semester, so you can flip between odd and even semesters without any hassle. Each request shows what's needed, who assigned it, when it was sent, and the current status. With all these details laid out clearly, in-charges know exactly what's on their plate and what still needs attention.

There's also a simple way to upload documents for each audit requirement. In-charges pick their files and send them in right from the page. After uploading, the system updates the request status, so everyone stays on the same page. This back-and-forth makes it easy to handle audit tasks, keep everything transparent, and ensure nothing slips through the cracks.


You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Incharge Panel
localhost/academic_auditt/incharge_panel.php
Logout
Odd Semester
Even Semester

Incharge Panel

Signed in as **Ms. R. S. Dumne (Test Incharge)**

My Requests — Odd Semester

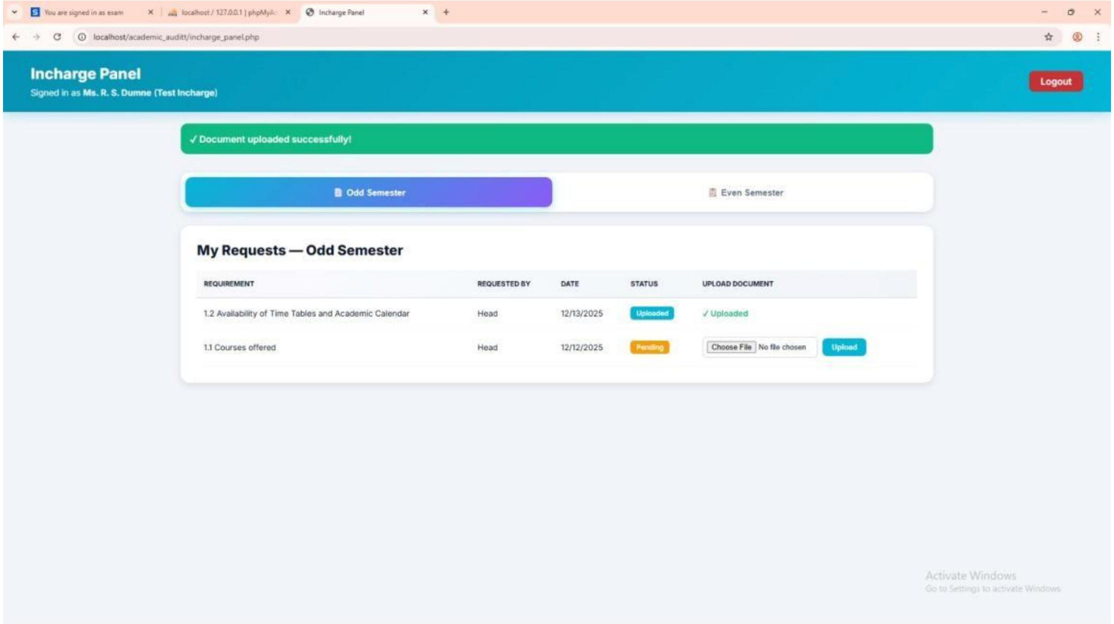
REQUIREMENT	REQUESTED BY	DATE	STATUS	UPLOAD DOCUMENT
1.2 Availability of Time Tables and Academic Calendar	Head	12/13/2025	Pending	Choose File No file chosen Upload
1.1 Courses offered	Head	12/12/2025	Pending	Choose File No file chosen Upload

Fig. 4.7: In-charge Request View Page

➢ In-charge Panel (Document Upload)

Here’s the document upload page for the In-charge user, Ms. R. S. Dumne. What’s the point? It’s pretty simple—this is where the In-charge sees what the Head needs and uploads the right documents. The main area “My Requests — Odd Semester”—lists out everything the Head wants from the In-charge. Let’s look at the example. The Head asked for two things: “1.2 Availability of Time Tables and Academic Calendar” and “1.1 Courses offered.” For 1.2, the In-charge finished the job. There’s a checkmark in the UPLOAD DOCUMENT column, and the status box shows “[ ]”—looks like that’s waiting for review. For 1.1, the In-charge hasn’t uploaded anything yet. There’s a “Choose File” button just sitting there, and the status is still “[ ].”

Bottom line: this page is all about the In-charge getting those requests done and uploading the files.



You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Incharge Panel
localhost/academic_auditt/incharge_panel.php

Incharge Panel

Signed in as **Ms. R. S. Dumne (Test Incharge)**

✓ Document uploaded successfully!

Odd Semester
Even Semester

My Requests — Odd Semester

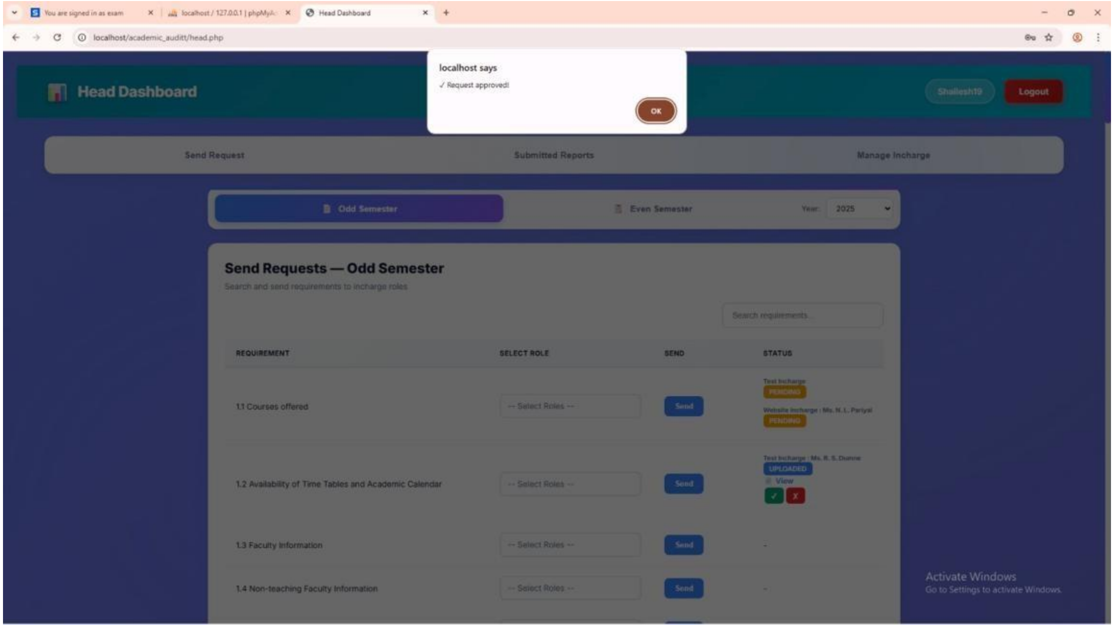
REQUIREMENT	REQUESTED BY	DATE	STATUS	UPLOAD DOCUMENT
1.2 Availability of Time Tables and Academic Calendar	Head	12/13/2025	Uploaded	✓ Uploaded
1.1 Courses offered	Head	12/12/2025	Pending	Choose File No file chosen Upload

Activate Windows
Go to Settings to activate Windows

Fig. 4.8: In-charge Panel (Document Upload) Page

➢ Head Dashboard (Request Approval)

This one’s the main screen for the Head. The Head uses it to send out tasks to different Incharge roles and keep tabs on what’s been done. The key section—“Send Requests — Odd Semester”—shows every request and where it stands. For “1.2 Availability of Time Tables and Academic Calendar,” the status says: ✓ Request sent to Incharge: Ms. R. S. Dammo. So the Head sent it, and as we saw earlier, the Incharge already uploaded the document. For “1.1 Courses offered,” the status also says: ✓ Request sent to Incharge: Ms. R. S. Dammo. The request is out, but the Incharge still needs to upload the file. So, this page is where the Head hands out tasks and can see exactly who’s on the hook for each one.



localhost/academic_auditt/head.php

localhost says

✓ Request approved!

OK

Head Dashboard

Shailesh19 | Logout

Send Request | Submitted Reports | Manage Incharge

Odd Semester | Even Semester | Year: 2025

Send Requests — Odd Semester

Search and send requirements to incharge roles

Search requirements...

REQUIREMENT	SELECT ROLE	SEND	STATUS
1.1 Courses offered	-- Select Roles --	Send	Test Incharge PENDING Website Incharge : Ms. N. L. Pariyal PENDING
1.2 Availability of Time Tables and Academic Calendar	-- Select Roles --	Send	Test Incharge : Ms. R. S. Dunne UPLOADED View ✓ ✗
1.3 Faculty Information	-- Select Roles --	Send	-
1.4 Non-teaching Faculty Information	-- Select Roles --	Send	-

Activate Windows
Go to Settings to activate Windows.

Fig. 4.9: Head Dashboard (Request Approval) Page

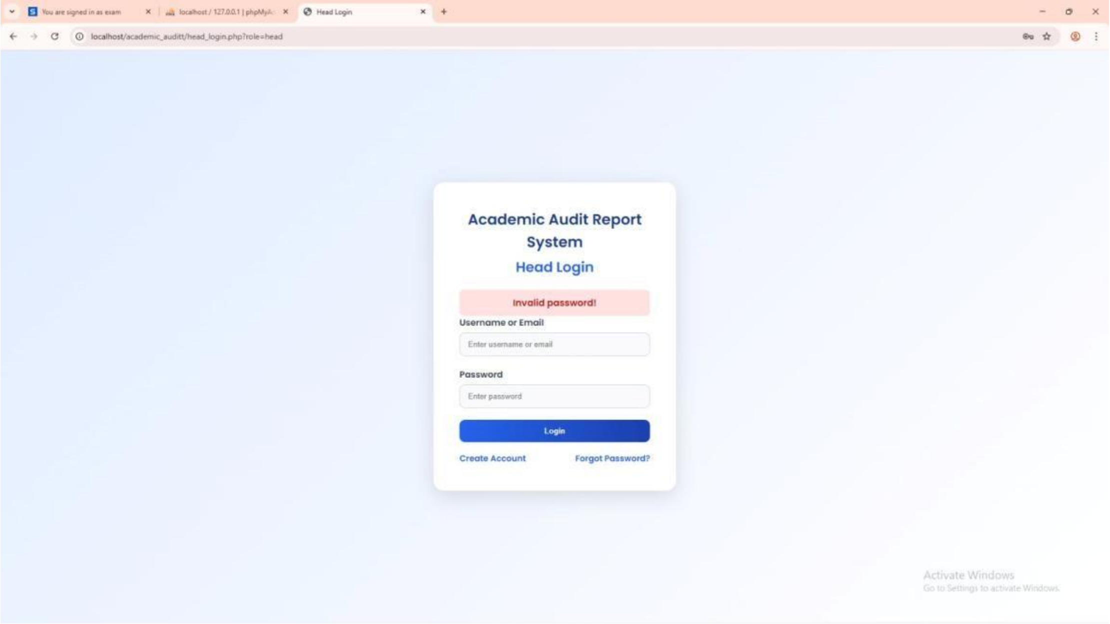
4.2 Invalid Credentials Handling

Handling invalid credentials is a key part of the Academic Audit Report Generation System’s security. Only authorized users get in—no exceptions. If someone types in the wrong username, password, or OTP, the system spots it right away and shuts the door. It throws up an error message, but it doesn’t spill any sensitive details. The system also keeps an eye on repeated failed logins. Too many wrong tries, and it steps in. It’ll ask the user to prove who they are again or go get a new OTP. Every failed attempt gets logged, so there’s always a record for audits or reviews. This whole setup keeps academic data safe and confidential, and it makes sure the audit process stays solid and trustworthy.

Key points:

- The system verifies user login credentials such as username, password, and OTP during authentication.
- If incorrect credentials are entered, system access is denied immediately.

- An error message is displayed without revealing sensitive information.
- Multiple invalid login attempts are restricted to prevent unauthorized access.
- Users are allowed to request a new OTP if verification fails.
- All failed login attempts are logged for security monitoring.
- This mechanism ensures data confidentiality, system security, and audit integrity.



localhost/academic_auditt/head_login.php?role=head

Academic Audit Report System

Head Login

Invalid password!

Username or Email

Enter username or email

Password

Enter password

You are signed in as exam
localhost / 127.0.0.1 | phpMyA
Head Login
Login
Create Account
Forgot Password?
Activate Windows
Go to Settings to activate Windows.

Fig. 4.10: Invalid Credentials Page

4.3 Issues & Observations

When we started building and testing the Academic Audit Report Generation System, we ran into a bunch of technical and practical problems. Right away, the data was all over the place—different formats, missing entries, and random upload errors. Some people just got lost with the system's error messages and prompts, especially when they first tried the tool.

And honestly, when it had to chew through a lot of academic data or spit out detailed reports, things slowed down. Those early tests made it clear: the system needed better guidance for users and smarter ways to handle data.

So, we tightened up the validation rules, made the error messages clearer, and switched to asynchronous processing to speed things up. After that, everything ran more smoothly—the system got more accurate, quicker, and just easier to use.

All those little discoveries along the way really shaped the final product. Now, the system reliably generates audit reports, even in the messy, real-world academic setting.

Issues and Observations –

1. Inconsistent Data Formats: Right from the start, users uploaded files in all sorts of formats. This made processing and analysis a hassle until we put standardization rules in place to keep everything consistent.

2. Incomplete or Missing Data: Some audit records came in missing key details—student grades, faculty names, course outcomes. That slowed down validation and held up report generation while we chased down the missing info.

3. User Understanding Challenges: Folks who weren't tech-savvy often got tripped up by system prompts or error messages. They'd get stuck or repeat the same mistakes during data entry because the messages just weren't clear enough.

4. Performance Delays: Uploading big chunks of data or generating reports with loads of academic records caused the system to lag. Switching to asynchronous processing and tightening up database queries made a real difference and cut down the wait times.

5. Report Formatting Issues: When the data got complicated, some audit reports ended up with formatting glitches. We had to tweak the templates and make sure they could handle different data lengths without falling apart.

6. Security Observations: We saw a bunch of failed logins and wrong OTP entries. This made it clear we needed stronger security—better logging, tighter access controls, and role-based authentication.

7. Integration Challenges: Getting different modules—like data validation, analysis, and report generation—to work together smoothly took some work. Early on, we found bugs and data loss during module communication, so we did some serious debugging to sort that out.

8. Error Handling and Notifications: Error messages needed work—they had to be clear and helpful without giving away sensitive system info. We fixed this with improved exception handling.

CONCLUSION

We built the Academic Audit Report Generation System to tackle all the headaches that come with manual audits in colleges. Instead of slogging through endless paperwork, the system handles data collection, checks, analysis, and report creation automatically. This cuts way down on manual work, keeps errors to a minimum, and makes sure audit reports are accurate and consistent every time. Thanks to its modular design and solid workflow, faculty, coordinators, and administrators can easily manage everything audit-related, all while keeping data safe and sound.

The tech behind it? It’s a solid lineup: HTML, CSS, JavaScript, PHP, MySQL, AJAX, PHPMailer for OTP verification, and DOMPDF for generating reports. These tools work together smoothly, connecting the user interface, backend, and database without a hitch. The result is a secure, scalable, and user-friendly platform that delivers on all the must-haves for academic audit management. With role-based authentication and input validation, data stays confidential and protected.

During testing, we ran into a few bumps—messy data formats, missing info, slow performance, and some confusion for new users. But we took those problems head-on. With round-the-clock testing and debugging, we made sure every module played nice with the others, and the whole system ran smoothly and reliably. Testing also made it clear how important good user guidance, error handling, and fast data processing are for a better experience.

In the end, this system offers colleges a real solution for academic audits. It makes the whole process faster, easier, and more accurate, which is a big help for accreditation and smart decision-making. Plus, the system’s built to grow and adapt, so colleges can keep improving how they manage quality and accountability in education.

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