

الكلية الجامعية  
للعلوم التطبيقية  
رائدة الإبداع



# Final Project Report

Academic Paper Management System

Software Engineering Project. By:

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# 1.INTRODUCTION

The Academic Paper Management System is designed to automate and streamline the workflow of research paper submission, review, and status tracking within academic institutions. This system replaces manual and paper-based processes with a centralized, web-based platform that improves efficiency, transparency, and collaboration among researchers, reviewers, and administrators.

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## 2. PROBLEM STATEMENTS BACKGROUND

Currently, the paper management process in many institutions relies on manual workflows, including:

- Paper or email-based submission of research papers
- Manual organization and storage of physical documents
- Coordination of reviews through offline communication
- Status updates managed manually, leading to delays and confusion

This manual approach results in inefficiencies, difficulties in tracking submissions, lack of timely communication, and increased administrative overhead.

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## 3. PROBLEM STATEMENT

The existing manual system is complex, confusing, and inefficient, heavily relying on physical documents and disconnected processes. It fails to satisfy the requirements of users who need real-time updates, clear tracking, and seamless communication, causing delays and errors in managing research paper workflows.

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## 4. PROJECT OBJECTIVES

The key objectives of this project include:

- Developing a user-friendly, web-based system for paper submission and management
- Enabling automatic extraction and handling of paper metadata
- Providing role-based access for researchers, reviewers, and administrators

- Automating review assignments, feedback collection, and status updates
  - Offering real-time dashboards and reports to administrators
  - Implementing notification mechanisms for submission and status changes
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## 5. PROJECT SCOPE

The system will initially support:

- Researcher registration and login
- Uploading and submitting research papers in PDF or DOCX format
- Metadata extraction and manual correction if needed
- Admin dashboard for monitoring system activity, paper submissions, and security logs
- Reviewer assignment and feedback submission
- Status tracking visible to all relevant users
- Exporting reports and analytics

Future expansions may include integration with plagiarism detection tools, enhanced analytics, and broader notification channels such as email and in-app alerts.

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## 6. PROJECT SIGNIFICANCE

By digitizing the paper management process, the system will:

- Reduce administrative burden and eliminate reliance on physical documents
  - Increase processing speed and accuracy in handling submissions
  - Enhance transparency for researchers tracking their papers
  - Strengthen security and auditability of submission and review processes
  - Provide management with data-driven insights for decision-making
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## 7. PROJECT FEATURES AND BENEFITS

- **Efficient Workflow:** Streamlined submission and review reduce processing times.
- **Role-Based Access Control:** Secure and appropriate access for different user types.

- **Real-Time Monitoring:** Dashboards display live metrics on system activities and submissions.
  - **Automated Notifications:** Inform users promptly about submission status changes or issues.
  - **Comprehensive Audit Logs:** Track security events and unauthorized access attempts.
  - **Report Generation:** Exportable analytics for institutional reporting and review.
  - **Reduced Physical Storage:** Digital records minimize paper usage and storage needs.
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## 8. EXPECTED RESULT

At project completion, academic institutions will benefit from a robust platform that:

- Enables seamless electronic submission and review of academic papers
  - Improves communication and transparency across all stakeholders
  - Minimizes manual errors and delays inherent in the old system
  - Supports scalability as the number of submissions grows
  - Lays the groundwork for future integrations and feature enhancements
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## 9. METHODOLOGY

### 9.1. Identify problem

The academic research department currently lacks an integrated information system to support, organize, and evaluate the academic paper management process. Existing workflows are highly manual, relying on physical storage, scattered digital files, and spreadsheets for tracking. This disorganized approach leads to inefficiencies, inconsistent or missing metadata, poor version control, and limited visibility into research trends. As a result, it becomes difficult to monitor progress, ensure collaboration, or make data-driven decisions. The absence of a centralized, intelligent platform hinders the department's ability to streamline operations, support researchers effectively, and evaluate the performance of academic activities.

## 9.2. Requirement

Hardware	Specification	Qty.
<b>Server</b>	<ul style="list-style-type: none"><li>- Processor: 2 GHz or higher</li><li>- RAM: 256 MB or higher</li><li>- Hard Disk: 80 GB or higher</li><li>- Video Adapter: 4 MB</li><li>- Monitor: Super VGA 17"</li><li>- Network Adapter: 10/100 Mbps</li><li>- DVD Player</li><li>- Keyboard and Mouse</li></ul>	1
<b>Clients</b>	<ul style="list-style-type: none"><li>- Processor: 1.7 GHz or higher</li><li>- RAM: 128 MB or higher</li><li>- Hard Disk: 40 GB</li><li>- Video Adapter: 4 MB</li><li>- Monitor: Super VGA 17"</li><li>- Network Adapter: 10/100 Mbps</li><li>- DVD Player</li><li>- Keyboard and Mouse</li></ul>	3
<b>L.A.N</b>	Local area network 10/100 speed.	1
<b>Printer</b>	Laser printer	1

Software		
<b>Server Software</b>	<ul style="list-style-type: none"> <li>- Windows 2000 Operating System</li> <li>- Microsoft SQL Server 2000 Enterprise Edition</li> <li>- Java 2 SDK (J2SE)</li> </ul>	
<b>Client Software</b>	<ul style="list-style-type: none"> <li>- Windows XP Professional</li> <li>- Microsoft Office 2003</li> <li>- SDK, JDK</li> </ul>	

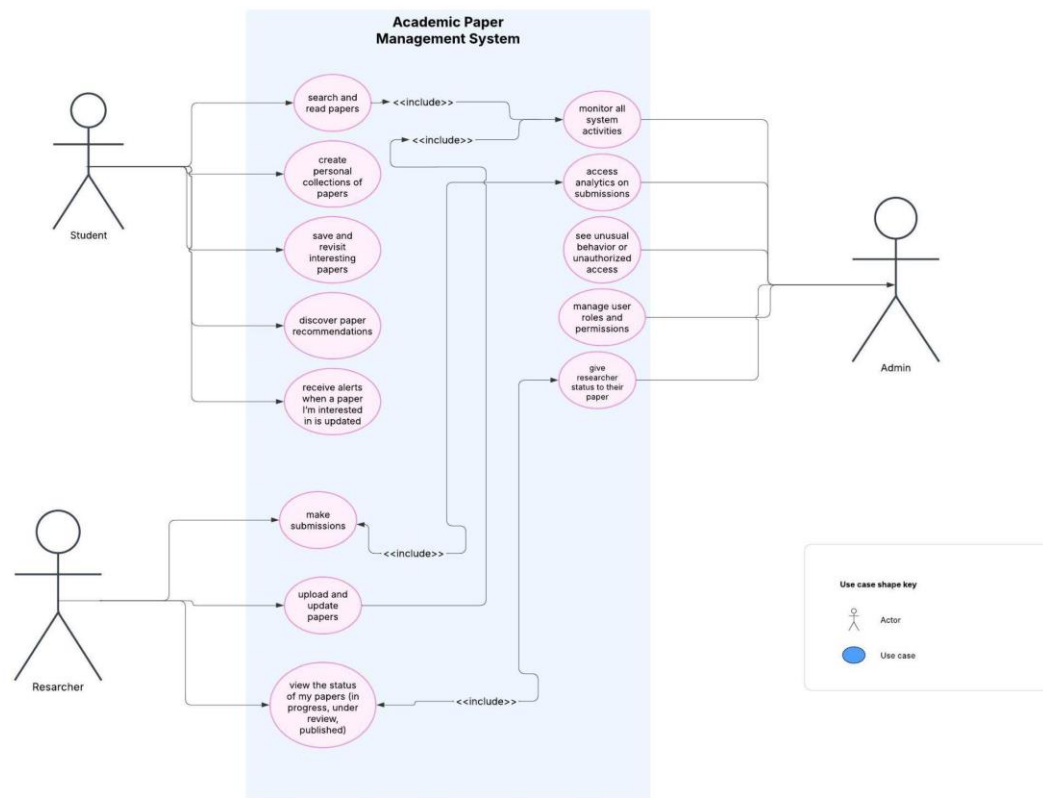
### 9.3. Analysis

System analysis is the first and foundational step in our project. During this phase, we aim to thoroughly understand the nature and scope of the system we intend to build. This involves analyzing user needs, defining system requirements, and identifying the core activities the system must support.

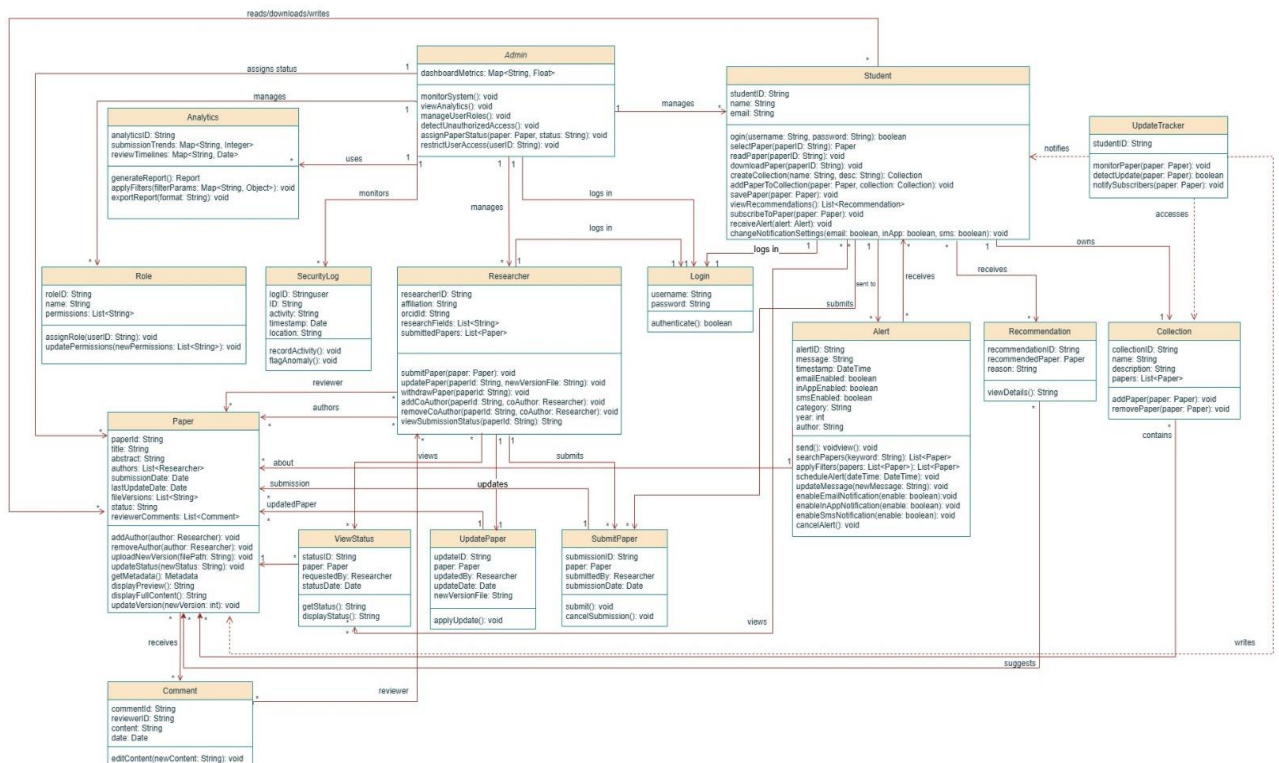
In addition to requirements analysis, we also conduct a feasibility study to assess whether the proposed Academic Paper Management System (APMS) can be realistically developed and implemented. This includes evaluating technical, operational, and resource-related constraints to ensure the project is achievable within the given environment.

System analysis not only guides the development process but also helps align the system design with user expectations and institutional goals.

### 9.4.1. Use Case Diagram



### 9.4.3. Class Diagram



## 9.5. Development

The new system will be developed using the Java programming language for the application logic and user interfaces. Java is chosen for its platform independence, reliability, and robust object-oriented features, which make it suitable for building scalable desktop applications.

For data storage, we will use Microsoft Access XP as the database management system. Microsoft Access provides a simple, file-based solution that allows for easy setup and integration during the early stages of system development. It is well-suited for small to medium-scale projects and supports rapid prototyping.

This technology stack is chosen to ensure a balance between ease of development, maintainability, and meeting the functional requirements of the academic paper management system.

## 9.6. Testing

The academic paper management system must be thoroughly tested to ensure it meets the needs of all stakeholders and functions correctly in supporting the submission, review, and management of academic papers. Testing will verify that the system's features such as paper uploading, version control, AI-generated metadata, and user role management work efficiently and accurately. The goal of testing is to confirm that the system improves workflow efficiency and reduces errors while providing a smooth user experience for researchers, editors, and students. Additionally, testing will help detect any defects or issues early, ensuring that future updates or enhancements do not disrupt existing functionality or performance. A comprehensive testing process, including functional, integration, performance, and user acceptance testing, will guarantee the system is reliable, secure, and ready for deployment in an academic environment.

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## 10. COSTING

Constant costing (One Time Cost)	
	1. Purchase of new hardware equipment required to support the system infrastructure.
	2. Acquisition of new software, including application software and server software licenses.



Changing Costs(Recurring Costs)	
	1. Ongoing maintenance of hardware and storage systems to ensure reliability and performance.
	2. Development costs, including consultation fees, updates, and other related expenses for system enhancements and support.

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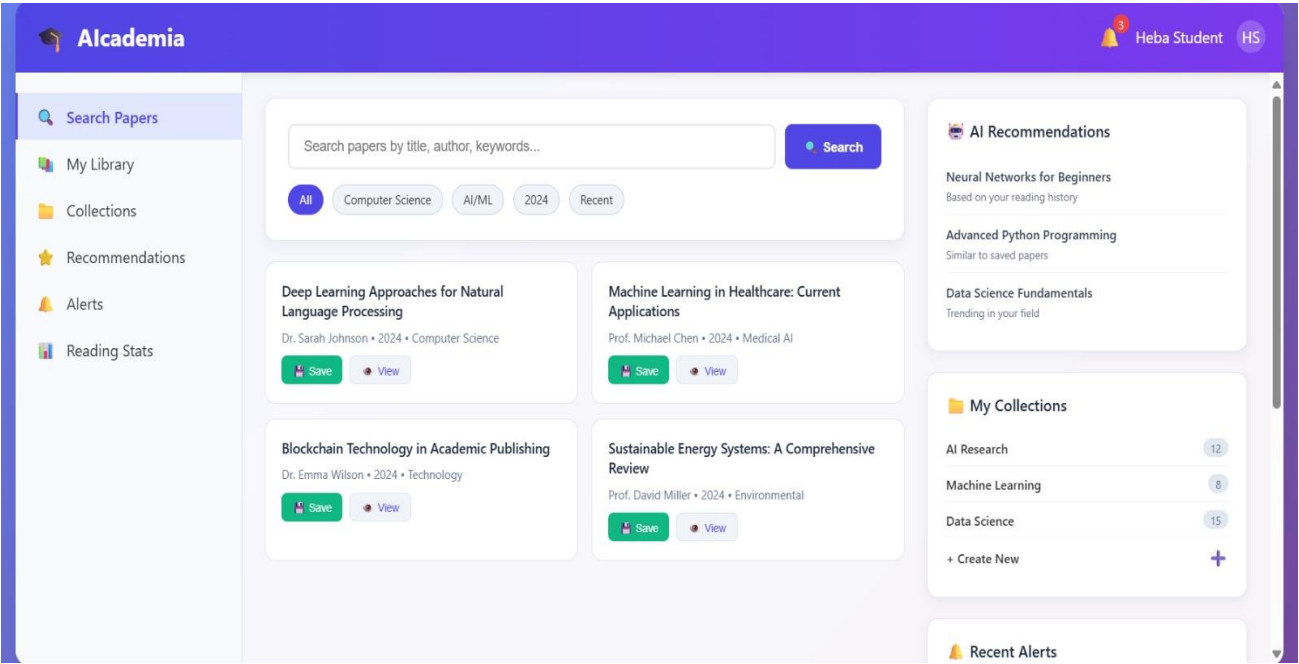
## 11. PROJECT'S SCHEDULE

The development of the proposed Academic Paper Management System (APMS) will be managed using the System Development Life Cycle (SDLC) framework, a well-established IT project management methodology. This structured approach ensures that each stage is thoroughly planned and executed to meet project goals effectively. The phases in this project are:

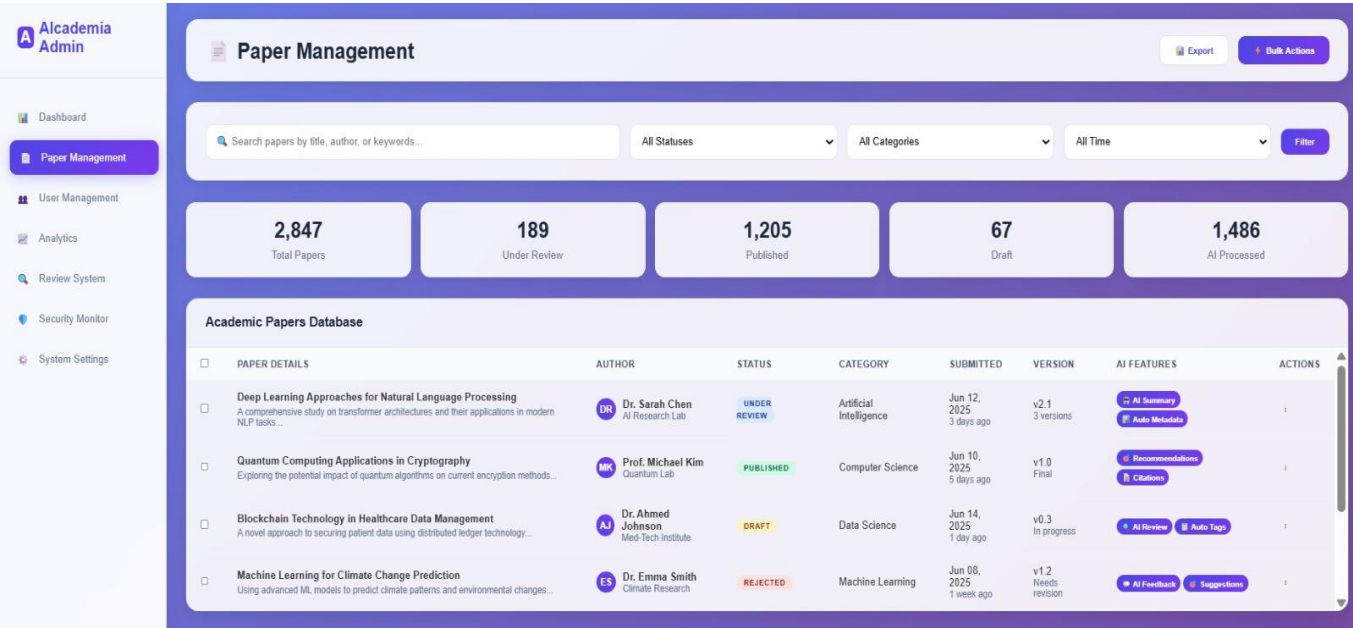
- **Project Identification:** Defining the project scope, objectives, and identifying stakeholders and key requirements.
  - **Analysis:** Gathering and analyzing detailed system requirements, understanding current challenges, and assessing project feasibility.
  - **Design:** Creating the system architecture, user interfaces, and designing AI-powered functionalities such as metadata extraction and smart search.
  - **Implementation:** Coding and developing the system using chosen technologies to build the required features and interfaces.
  - **Testing:** Performing comprehensive tests to ensure the system meets all functional and non-functional requirements, is secure, and user-friendly.
  - **Feedback:** Collecting feedback from users and stakeholders to refine the system and plan future improvements.
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# 12. INTERFACES

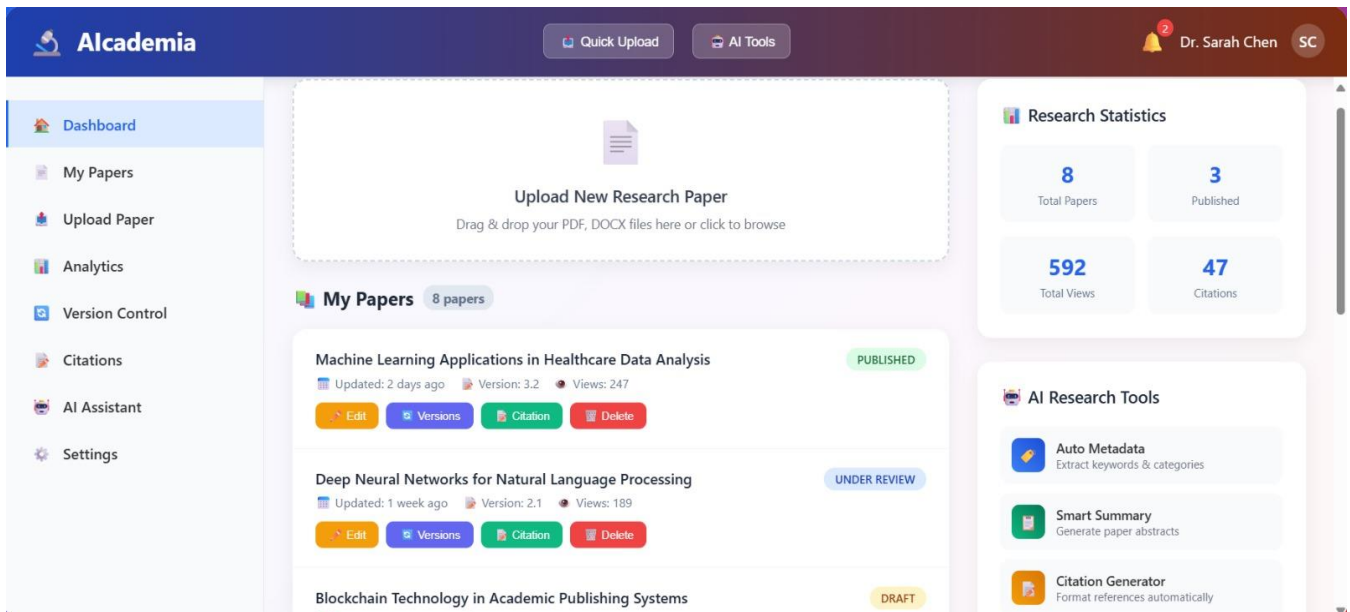
## student Interface



## Admin Interface



## Researcher Interface



## 13. Conclusion

To implement our Academic Paper Management System (APMS), we adopted a three-tier architecture that ensures modularity, scalability, and maintainability. In the presentation tier, we designed a user-friendly Java-based graphical user interface (GUI) to facilitate interaction for researchers, students, and administrators. The middle tier handles the application logic using Java programming, processing user inputs, managing business logic, and communicating with the data layer. Finally, the data management tier utilizes Microsoft Access XP as the database platform to store and manage academic papers, user data, and metadata.

To establish a connection between the application and the database, we used the JDBC-ODBC bridge driver. Java provides the flexibility to construct SQL queries and interact with the database seamlessly through the `JdbcOdbcDriver`. After configuring the necessary settings, we successfully connected the client interface with the database management system, enabling smooth data flow across all system layers.

This structured architecture enables us to support system evolution and future enhancements while maintaining performance, security, and user experience.