

1. Title Page

Project Title: College Management System

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Internship / Course Name: Java Full Stack

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Date: February 21, 2026

CMS Project Documentation Draft

1. Abstract: The College Management System (CMS) is a comprehensive digital solution designed to streamline and automate the administrative, academic, and operational processes of an educational institution.

2. Introduction

- **Project overview:** The CMS serves as a centralized platform connecting administrators, faculty, and students.
- **System purpose and scope:** It aims to eliminate manual paperwork, reduce data redundancy, and provide real-time access to academic records and schedules.
- **User roles and responsibilities:** Defines access controls and specific capabilities for Admins, Faculty, and Students.

3. Objectives: To build a scalable, secure, and user-friendly web application that centralizes college data and improves communication between departments.

4. Requirements: This section covers the Technology Stack Overview.

- **Frontend:** HTML5, CSS3, JavaScript.
- **Backend:** Java, Spring Boot.
- **Database:** MySQL.
- **Authentication:** JWT (JSON Web Tokens) for secure login.

5. System Design (All diagrams):

- **System Architecture:** Outlines the Model-View-Controller (MVC) pattern used.
- **Use Case Diagram:** Illustrates user interactions with the system.
- **Data Flow Diagram (Level 0, Level 1, Level 2):** Maps the flow of information.
- **ER Diagram & Class Diagram:** Details entity relationships and object-oriented structure.

6. Module Description:

- **Admin Dashboard:** Features include user management, course creation, and system configuration.

- **Faculty Dashboard:** Features include grading, attendance tracking, and material uploads.
- **Student Dashboard:** Features include viewing grades, checking schedules, and submitting assignments.

7. Database Design: Applying your SQL knowledge here to outline the relational schemas will be highly effective. For each table, we will define the specific fields, primary/foreign keys, data types, and relationships.

8. Implementation Overview: A brief description of how the system was coded, integrating the Spring Boot backend with the React frontend and MySQL database.

9. Testing: Details on unit testing, integration testing, and user acceptance testing (UAT) to ensure the system is bug-free.

10. Conclusion: A summary stating that the CMS successfully meets all initial requirements and modernizes the college's infrastructure.

11. Future Scope: Potential future enhancements, such as adding a mobile app, integrating payment gateways for fee collection, or adding an AI chatbot for student queries.