

Campus Course & Records Manager

Project Report

1. Introduction

CCRM helps educational institutions manage academic records...

2. Problem Statement

[Copy from statement.md]

3. Functional Requirements

- Student management (add, update, list)
- Course catalog management
- Enrollment with business rules
- Grade management and transcripts

4. Non-functional Requirements

- Performance: Efficient with 1000+ records
- Usability: Menu-driven console interface
- Reliability: Backup/restore system
- Maintainability: Modular Java code

5. System Architecture

[Insert your generated architecture diagram]

6. Design Diagrams

[Insert your generated class diagram]

7. Implementation Details

Used Java with packages: domain, service, io, config

Key classes: Student, Course, Enrollment, FileService

8. Testing Approach

Manual testing of all menu options and file operations.

9. Challenges Faced

- Implementing enrollment validation rules
- CSV file parsing and error handling
- Maintaining data consistency

10. Learnings

- Better understanding of Java I/O operations
- Experience with business logic implementation
- Improved error handling skills

11. Future Enhancements

- Database integration
- Web interface
- Advanced reporting

12. References

- Java Documentation
- Course materials