

Faculty Management System - Java Swing Assignment

Assignment Overview

Develop a desktop-based **Faculty Management System** using **Java Swing** that manages **students, lecturers, courses, departments, and degrees** within the **Computing and Technology Faculty**. This application must adhere to the MVC (Model-View-Controller) design pattern and utilize **JDBC** with **MySQL** for data persistence. (JDBC with MySQL for data persistence is optional for ET Students)

Team Requirements

GitHub Organization (MANDATORY)

- **Team Size:** Maximum 6 students
- **Create GitHub Organization:** [FMS-GroupXX](#)
- **Repository Name:** [faculty-management-system](#)
- **Individual grading based on commit history**

Repository Structure

```
com.faculty-management-system/  
├── src/com/faculty/  
│   ├── model/  
│   ├── view/  
│   ├── controller/  
│   ├── dao/  
│   ├── util/  
│   └── main/  
├── database/  
│   ├── schema.sql  
│   └── sample_data.sql  
├── docs/  
│   └── FMS-GroupXX.pdf  
├── demo/  
│   └── demo_video.mp4 (or link)  
├── .gitignore  
└── README.md
```

Technical Requirements

MVC Architecture

Model - Entity classes (POJOs):

- `User.java`, `Student.java`, `Lecturer.java`, `Course.java`, `Department.java`, `Degree.java`, `Enrollment.java`

View - Swing GUI components:

- `LoginView.java`, `StudentDashboardView.java`, `AdminDashboardView.java`, and management views for each entity

Controller - Business logic handlers:

- `LoginController.java`, `StudentController.java`, `AdminController.java`, etc.

DAO - Database operations:

- `UserDAO.java`, `StudentDAO.java`, `LecturerDAO.java`, etc., with full CRUD operations

**Class names are only for reference; there can be additional classes*

Features

Authentication

- Log in with username/password
- Role-based access: **Admin**, **Student**, **Lecturer**

Student Module

- View/edit profile (name, ID, degree, email, mobile)
- View timetable
- View enrolled courses with grades

Admin Module (Full CRUD)

- **Students**: Add, view, edit, delete
- **Lecturers**: Add, view, edit, delete (with department and courses)
- **Courses**: Add, view, edit, delete (assign lecturers)
- **Departments**: Add, view, edit, delete (HOD, staff count)
- **Degrees**: Add, view, edit, delete (link to departments)

Deliverables

GitHub Repository Must Include:

- ✓ Complete source code
- ✓ Database SQL files (`schema.sql`, `sample_data.sql`)
- ✓ `FMS-GroupXX.pdf` detailing each member's work along with their student numbers
- ✓ Demo video

Demo Video Must Include:

1. Database demonstration - show tables and relationships
2. Feature walkthrough:
 - Log in as different roles
 - Student: profile, timetable, courses
 - Admin: CRUD operations on all entities
3. Code walkthrough
4. GitHub repository tour - show commits

Submission Guidelines

- Submit documentation as a PDF `FMS-GroupXX.pdf`
 - **Include:** GitHub org URL, repository URL, team members, demo video link
 - **Make the repository public** or add me([KesavanSelvarajah](#)) as a collaborator
 - **Deadline:** 10/01/2026

The FMS application visualization is shown in the following video for your reference. It can differ from the actual application, but the functionalities should remain the same.

<https://youtu.be/VS1HZzsQMX0>

Good luck with your assignment! Remember to start early and test frequently.