Submitted by:

Shehriyar khan

Submitted to:

Sir Mukhtiar zamin

Course title:

Software Design and Architecture

Registration no:

SP23-BSE-162

❖ PROJECT TITLE:

Department and Discipline Management

✚ Module:

Department Management:

Features:

- Add/Edit/Delete/View Departments.
- Assign Head of Department.
- View department states.

UML Deliverables:

- Class Diagram for Department.
- Activity Diagram for department creation flow.
- Sequence Diagram for "Assign HoD" process.

Java Code:

- GUI form to manage departments.

- Logic + file/DB storage.

Department Management Module

Introduction:

The Department Management Module is a web-based application that enables the management of university departments. It allows for adding, editing, and viewing departments through an intuitive user interface. The module uses HTML, CSS, and JavaScript to provide a professional and visually appealing frontend, while the backend is built to ensure seamless functionality for department-related tasks.

Features:

1. Add Department: Allows the user to add new departments to the system.
2. Edit Department: Enables the modification of existing department details.
3. View Departments: Displays a list of all departments currently in the system.
4. Professional Layout: The frontend design includes a modern color scheme and user-friendly navigation.
5. Fully Functional Backend: The backend is implemented using JavaScript, ensuring smooth operations for all use cases.

Detailed Description

1. Add Department:

The 'Add Department' feature allows users to input details for a new department into the system. This includes the department's name, code, head of department, and other relevant information. The form is designed with clear labels and input validation to ensure the data entered is correct and complete. Upon submission, the department is added to the database, and the user is notified of the successful addition.

2. Edit Department:

The 'Edit Department' functionality enables users to modify existing department details. This feature is accessible through a list of all departments, where users can select a department to edit. Once selected, a form is populated with the department's current details, allowing the user to make changes. Upon updating the department, the changes are saved to the database, and the user is notified of the successful update.

3. View Departments:

The 'View Departments' feature provides users with an overview of all departments currently in the system. This feature displays key details about each department, such as the department name, code, head of department, and other relevant information. The list can be filtered or sorted based on specific criteria, such as department name, to make it easier for users to find specific departments.

4. Layout and Design:

The frontend of the Department Management Module is designed with a modern, clean, and professional layout. The color scheme has been carefully selected to reflect the university's branding while maintaining an easy-to-read interface. The layout is responsive, ensuring that the application is accessible across different devices and screen sizes. Navigation is intuitive, with clear call-to-action buttons and a well-organized layout to minimize user confusion and maximize efficiency.

5. Backend Functionality:

The backend of the Department Management Module is implemented using JavaScript. It handles all user input, including adding and editing department data, and ensures that the system operates smoothly. The backend interacts with the frontend to receive data from the user, validate it, and send it to the server for processing. Error handling is integrated to ensure that invalid or incomplete data is not submitted. Additionally, AJAX calls are used to update the list of

departments dynamically without requiring the page to reload, creating a seamless user experience.

• USE Cases for Department Management Module:

1. UC-01: Add Department:

- Actor: Admin

- Description: Admin adds a new department by entering the department name, code, and description.

- Preconditions: Admin is logged in.

- Postconditions: New department is saved in the system.

- Exceptions: Duplicate department name/code.

---

2. UC-02: Edit Department:

- Actor: Admin

- Description: Admin updates details of an existing department.

- Preconditions: Department exists in the system.

- Postconditions: Updated information is saved.

- Exceptions: Editing restricted fields like ID.

---

3. UC-03: Delete Department:

- Actor: Admin

- Description: Admin deletes a department if it's not associated with any active programs or users.

- Preconditions: Department has no dependencies.

- Postconditions: Department is permanently removed.

- Exceptions: Deletion blocked if dependencies exist.

4. UC-04: View Departments:

- Actor: Admin

- Description: Admin can view a list of all departments along with basic details.

- Preconditions: None

- Postconditions: List is displayed.

- Exceptions: Database connection error.

5. UC-05: Assign Head of Department (HoD):

- Actor: Admin

- Description: Admin assigns or changes the HoD for a department from available faculty.

- Preconditions: Faculty list and department exist.

- Postconditions: HoD is assigned and updated in the system.

- Exceptions: Selected person not part of department or already assigned elsewhere.

6. UC-06: Search Department:

- Actor: Admin

- Description: Admin searches for a department by name or code.

- Preconditions: Department records exist.

- Postconditions: Matching departments are shown.

- Exceptions: No match found.

---

7. UC-07: Search Department:

- Actor: Admin

- Description: Allows searching departments by name, code, or faculty.

- Benefit: Speeds up access to specific department data.

---

8. UC-08: View Department Details:

- Actor: Admin

- Description: View comprehensive profile of a department including faculty list, assigned HoD, related disciplines, and history.

- Benefit: Provides insight into department structure.

9. UC-09: Filter Departments:

- Actor: Admin

- Description: Filters departments by faculty, HoD assigned status, or active/inactive status.

- Benefit: Makes management easier in large institutions.

---

10. UC-10: Export Department Data:

- Actor: Admin

- Description: Exports department details to Excel, PDF, or CSV format.

- Benefit: Useful for reports, accreditation, or audits.

11. UC-11: Archive Department:

- **Actor:** Admin

- **Description:** Marks a department as inactive instead of deleting it permanently.

- **Benefit:** Maintains historical data without cluttering active records.

---

12. UC-12: Restore Archived Department:

- **Actor:** Admin

- **Description:** Restores a previously archived department back to active status.

- **Benefit:** Useful if a department is re-opened.

---

13. UC-13: Audit Trail for Department Changes:

- **Actor:** Admin

- **Description:** View a log of changes made to department details (who made the change and when).

- **Benefit:** Ensures accountability and tracking

Department Management System