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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Skill Enhancement Project – Java Full Stack

STUDENT RESULT MANAGEMENT SYSTEM

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AGENDA

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INTRODUCTION

- The **Student Result Management System (SRMS)** is a **full-stack web application** designed to digitize the process of managing student academic records.
- It allows **administrators** to manage student details and marks efficiently.
- **Students** can securely log in to view their individual results, averages, and performance statistics.
- The system integrates **React.js (Frontend)**, **Spring Boot (Backend)**, and **MySQL (Database)** for seamless communication and data handling.
- It ensures **automation, accuracy, and accessibility** in managing academic results.

ABSTRACT

The **Student Result Management System (SRMS)** is a full-stack web application developed to automate and simplify the management of student academic results. It provides a secure and user-friendly platform where administrators can manage student information and marks, while students can easily access their results, averages, and performance reports. Built using **React.js**, **Spring Boot**, and **MySQL**, the system ensures seamless data flow between frontend, backend, and database layers. By eliminating manual processes, it enhances **accuracy**, **efficiency**, and **transparency** in academic result management.

EXISTING SYSTEM

- **Manual Data Entry:**

  Student details and marks are entered manually.
- **Paper-Based Record Keeping:**

  All student information and results are stored in physical files.
- **Time-Consuming Process:**

  Preparing mark sheets, computing averages, and updating records require significant manual effort, causing delays in result publication.
- **Limited Accessibility:**

  Students need to visit the institution to check their results, as there is no online access or automated result portal.
- **Lack of Security & Data Management:**

  The system does not provide secure login or restricted access.

PROPOSED SYSTEM

•Introduces a **web-based application** to manage student information and results digitally.

•Provides **secure login** for both Admin and Student roles.

•Ensures **real-time access** to results through an online portal.

•Uses **React.js** for a responsive and interactive user interface.

•Implements **Spring Boot** for backend logic and RESTful API communication.

•Stores and manages data efficiently using **MySQL** database.

•Allows **future scalability**, such as adding staff roles, analytics, and notifications.

ADVANTAGES

- Fast and accurate result processing.
- Easy access for both admin and students.
- Reduces manual work and human errors.
- Secure login and data management system.
- Real-time updates without page reloads.
- Data stored safely in a centralized database.
- User-friendly and responsive web interface.
- Easy to maintain, update, and scale in the future.

DISADVANTAGES

- Requires an **internet connection** for access.
- Initial **setup and deployment** may need technical knowledge.
- **Database maintenance** and backups are essential to prevent data loss.
- Limited functionality without proper **role-based access control**.
- System may face **downtime** if the server is not properly managed.
- Updates or changes require **developer involvement**

HARDWARE REQUIREMENTS

1. **Processor:** Intel Core i3 or higher
2. **RAM:** Minimum 4 GB (8 GB recommended)
3. **Storage:** At least 250 GB HDD / SSD
4. **Display:** 1366 × 768 resolution or higher
5. **System Type:** 64-bit Operating System
6. **Network:** Stable internet connection for database and API access

SOFTWARE REQUIREMENTS

- **Operating System:** Windows 10 / 11, macOS, or Linux
- **Frontend:** React.js, HTML, CSS, JavaScript
- **Backend:** Spring Boot (Java Framework)
- **Database:** MySQL
- **Build Tools:** Maven (Backend), npm (Frontend)
- **IDE Tools:** Eclipse IDE (Backend), Visual Studio Code (Frontend)
- **Browser:** Google Chrome / Microsoft Edge (for testing)
- **Server:** Embedded Tomcat (Spring Boot default)

MODULES

1. **Admin Module:** Manage students, marks, and view reports.
2. **Student Module:** View marks, average, and performance.
3. **Authentication Module:** Secure login for admin and students.
4. **Database Module:** Store and manage all system data.
5. **Result Module:** Calculate and display averages and percentages.

MODULE DESCRIPTION

1. Admin Module

- Secure login for administrators.
- Add, edit, delete, and view student details.
- Manage and update student marks.
- View overall performance and department summaries.

2. Student Module

- Student login using email and password.
- View subject-wise marks, average, and percentage.
- Access results anytime from the online portal.

MODULE DESCRIPTION

3. Authentication Module

- Provides secure login and validation for users.
- Prevents unauthorized access to system data.

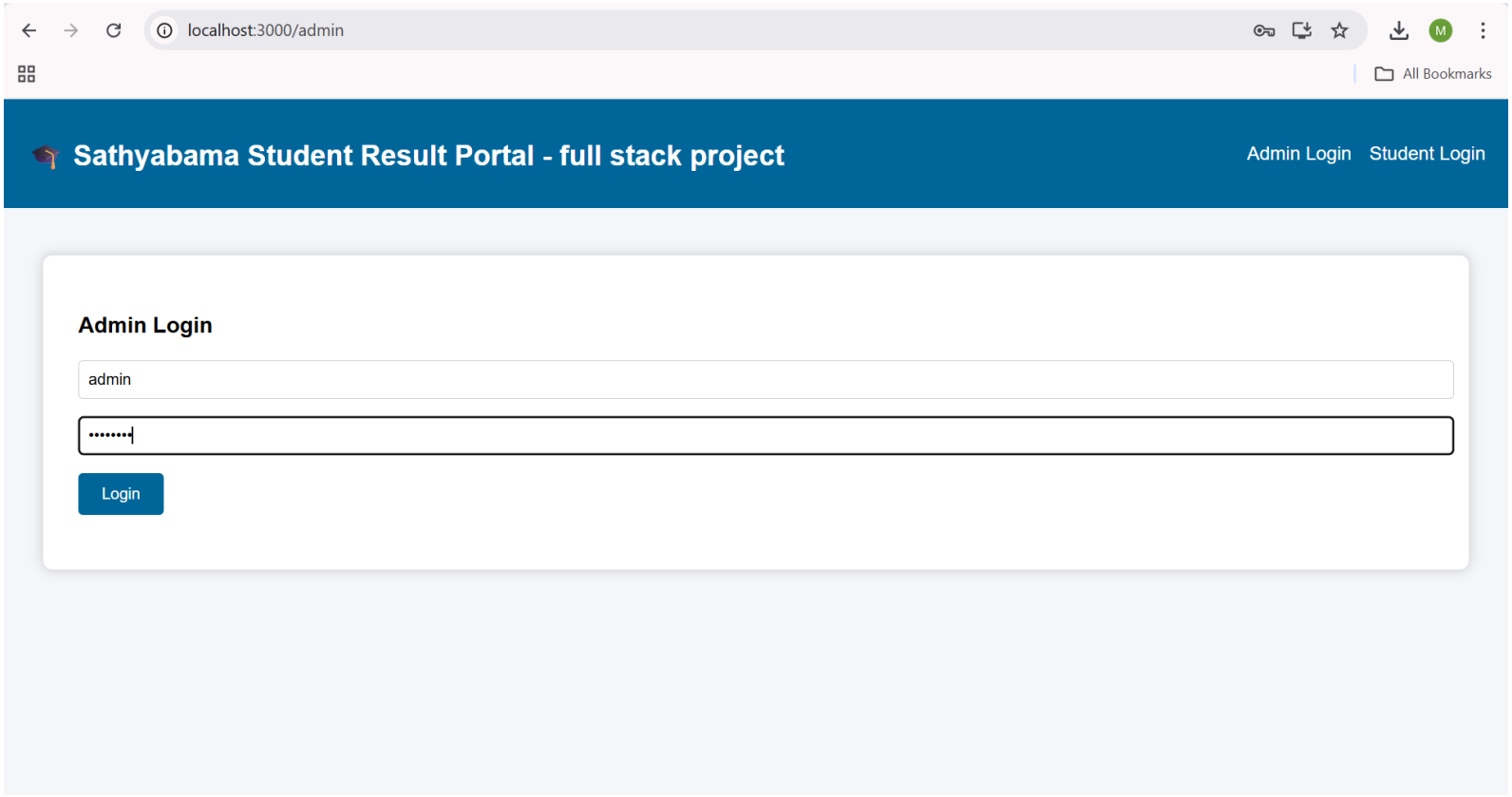
4. Database Module

- Stores all admin, student, and marks data.
- Ensures data consistency and relational integrity.

5. Result Calculation Module

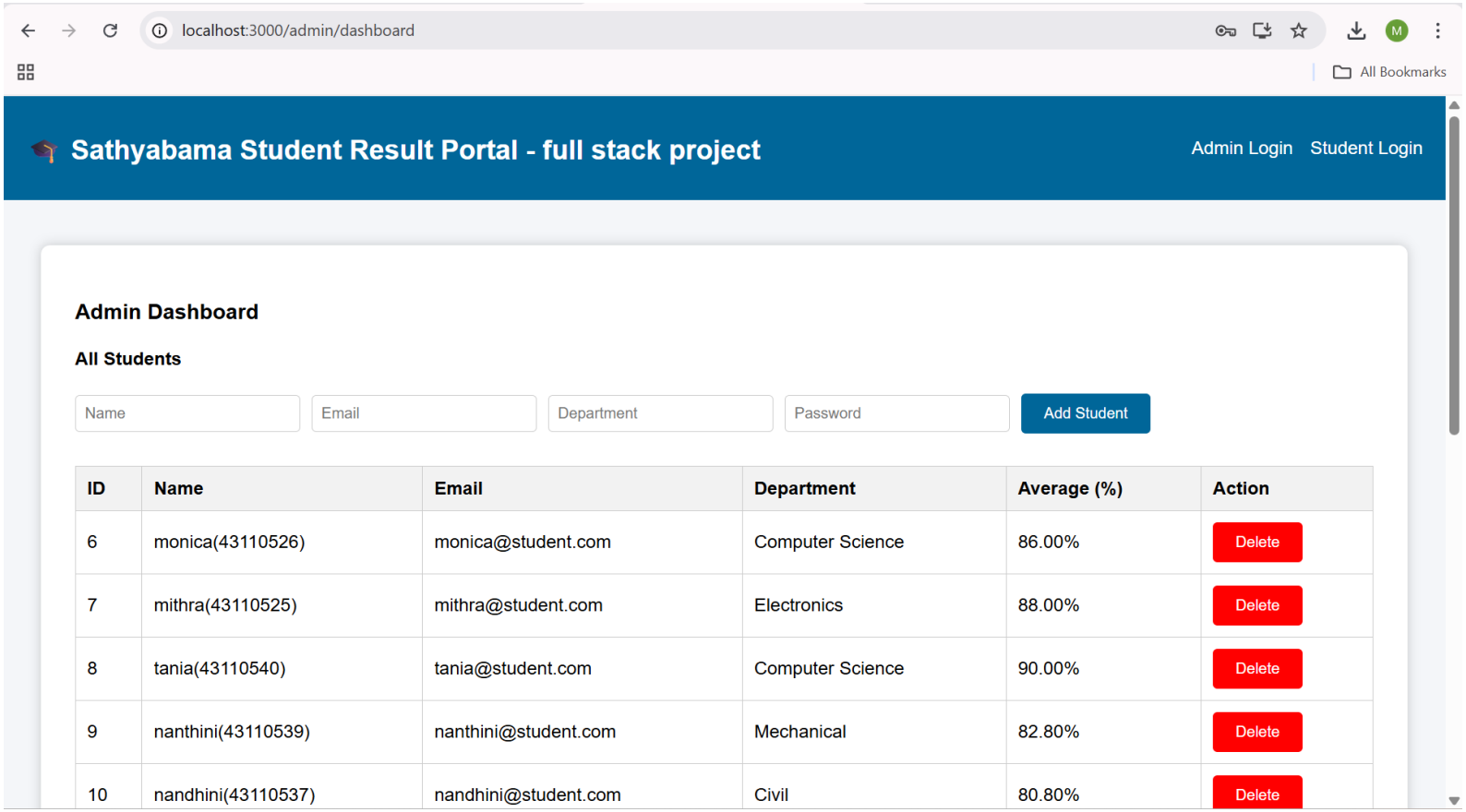
- Automatically computes average and percentage.
- Generates accurate results in real time.

SAMPLE OUTPUT(SCREENSHOT)



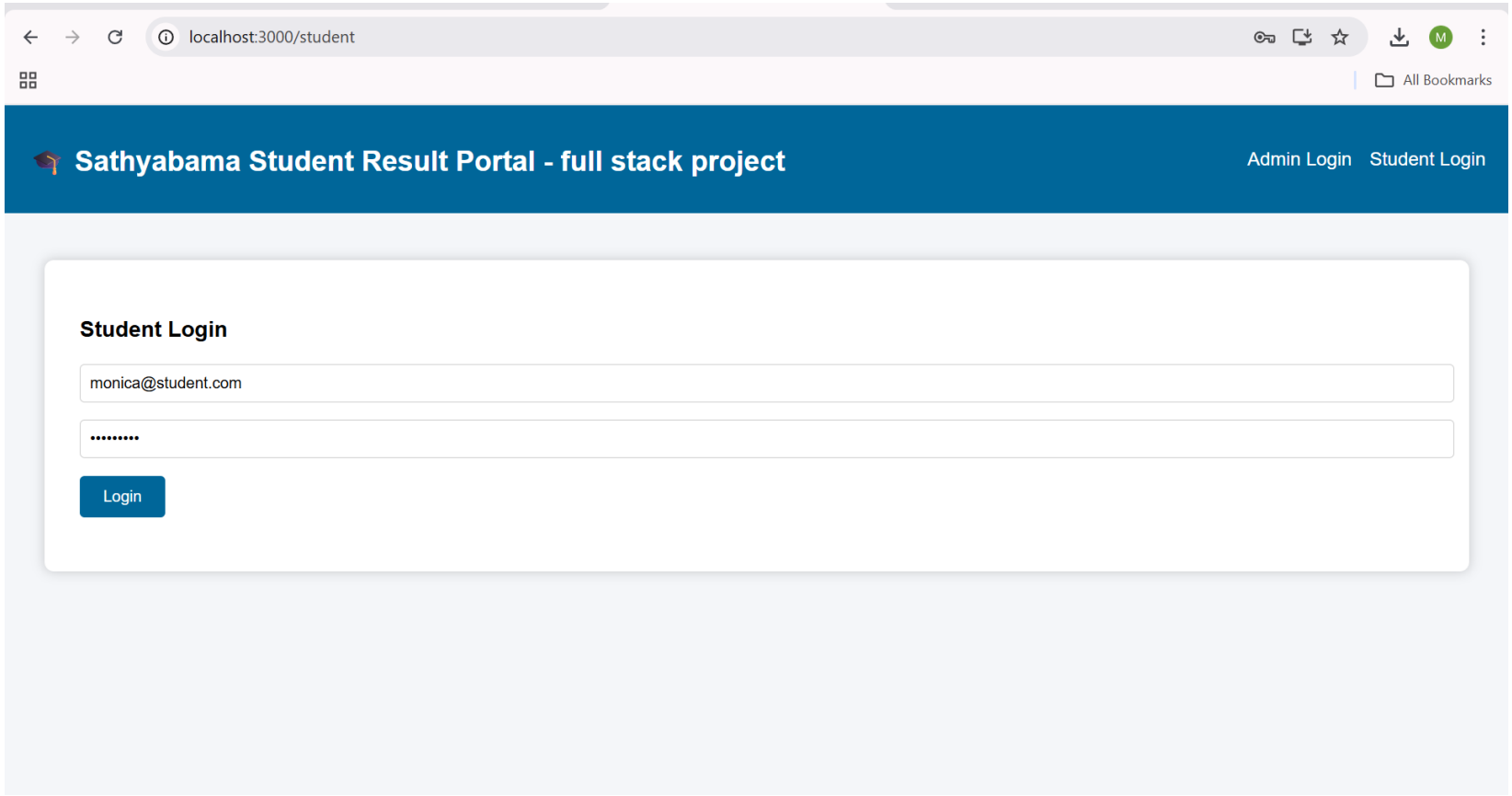
Admin login portal

SAMPLE OUTPUT(SCREENSHOT)



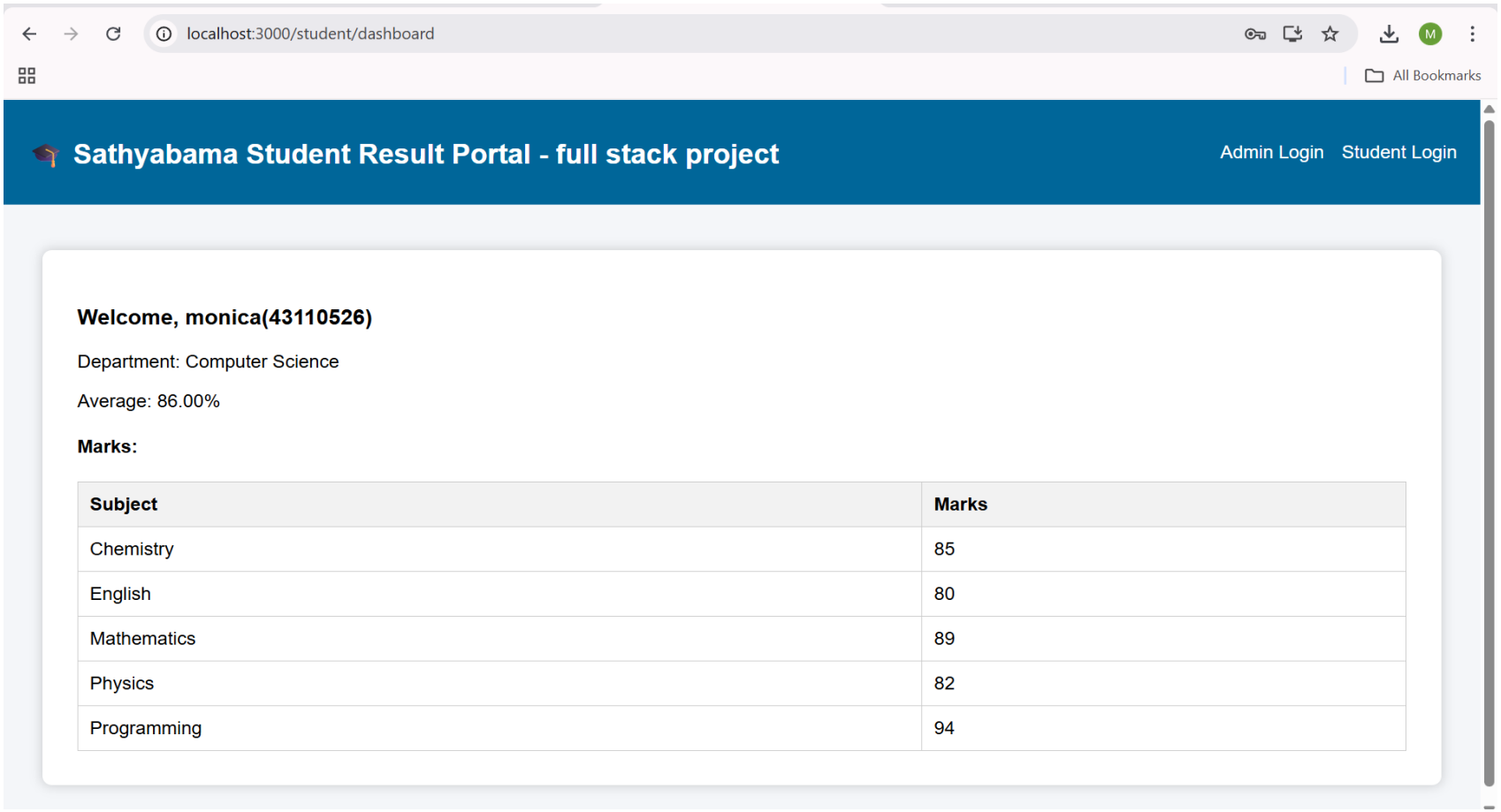
Admin portal

SAMPLE OUTPUT(SCREENSHOT)



Student login portal

SAMPLE OUTPUT(SCREENSHOT)



Student Result portal

CONCLUSION

- The **Student Result Management System (SRMS)** successfully automates the process of managing student results.
- It ensures **accuracy**, **efficiency**, and **transparency** in result processing.
- The integration of **React.js**, **Spring Boot**, and **MySQL** provides a powerful, scalable, and user-friendly platform.
- Both admins and students benefit from real-time data access and secure system operations.
- The project demonstrates how technology can simplify academic management and improve overall productivity.

THANK YOU

We thank God, Our Department, Guide, Panel Members, Supportive Professors and all Technical and non Technical staff who helped us in our Project.