Project Report: Admin and Student Applications

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Introduction

This project focuses on building two independent applications: one designed for the **Admin** and the other for the **Student**. Although both applications operate separately with their own interfaces, they are connected through a common **MongoDB Atlas database**, enabling real-time data sharing and synchronization.

Project Guidelines

As per the instructor's direction, the following criteria are to be followed:

1. Develop **two distinct applications**: one for Admin and one for Student users.
2. Both apps must **utilize the same backend database**.
3. Ensure each application has a **dedicated user interface and functionality** suited to its role.
4. The Admin App should be equipped to manage student records by adding, editing, or deleting information.
5. The Student App should present relevant data to students, such as announcements or personal records.

This clear division of responsibilities enhances system clarity and maintainability.

Admin Application Overview

The **Admin App** manages all backend functions and administrative tasks. It enables the admin to:

- Maintain student records (add/update/delete)
- Post official notifications
- Review student submissions or responses
- Create and export reports

This application acts as the administrative control panel of the system.

Student Application Overview

The **Student App** provides functionality tailored to student use. Key features include:

- Viewing of admin-posted announcements
- Access to personal and academic records
- Submitting feedback or relevant information (if needed)

It works in conjunction with the Admin App by accessing shared data in the MongoDB Atlas database.

Database Selection

The shared database in use is **MongoDB Atlas**, a modern, cloud-based NoSQL solution. The database was chosen due to the following benefits:

- Fully managed service accessible online
- Flexible and scalable data handling
- Real-time updates and multi-user access support
- Seamless integration with modern frontend and backend tools

Both applications connect to MongoDB Atlas securely via APIs to ensure accurate and synchronized data flow.

Conclusion

This dual-application system demonstrates how two standalone apps can communicate through a unified cloud database. The Admin App serves as the data management hub, while the Student App functions as a read-access interface for users. This structure ensures reliability, modularity, and efficient communication across the system.
