

A decorative graphic on the left side of the slide. It consists of a blue parallelogram and a light green parallelogram, both tilted at an angle. The blue shape is in the foreground, and the green shape is partially behind it. They are set against a dark blue background with faint, lighter blue diagonal stripes.

SMARTED CONNECT

School Management System



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PROJECT OVERVIEW

SmartEd Connect is a sophisticated School Management System designed to revolutionize how educational institutions manage their administrative and educational processes. It provides a unified platform for schools and colleges to streamline their operations, enhance communication, and improve the overall learning experience for students.



PROJECT DESCRIPTION

The primary objectives of the SmartEd Connect School Management System are as follows:

- Simplify administrative tasks to save time and resources.
- Improve communication among administrators, teachers, students, and parents.
- Provide students with better access to educational resources and information.
- Enable effective management and analysis of school data.



KEY FEATURES

SmartEd Connect offers a comprehensive set of features, including:

- School Information Management
- User and Access Management
- Dashboard and Analytics
- Students and Attendance Tracking
- Teachers and Course Management
- Course Materials and Digital Resources
- Departments Management
- Non-Teaching Staff Profiles
- Grades and Assessments
- Event Management
- Online Assignment Submission



ARCHITECTURE AND TECHNOLOGY

The SmartEd Connect system is built upon a Modular Monolith architecture. This architecture combines the benefits of modularity and simplicity, making it an ideal choice for developing complex applications while maintaining codebase manageability.



TECHNOLOGIES

The backend of SmartEd Connect utilizes the following technologies and services:

- Django: A robust Python web framework that provides the foundation for our application.
- Django REST Framework: A powerful toolkit for building Web APIs that drives the API layer.
- SQLite: A lightweight relational database system chosen for its simplicity and performance.
- Amazon EC2: The server hosting infrastructure that ensures scalability and reliability.
- Docker: Used for containerization, which streamlines deployment and scaling.
- PostgreSQL: As an alternative database solution to accommodate future growth.
- Unicorn: The application server that serves Django applications.
- Nginx: Acts as a reverse proxy server, enhancing security and performance.
- Redis: Used for caching to optimize the application's response time.
- SSL Termination: Implemented for secure communication (HTTPS).

The frontend of SmartEd Connect is built using React, a popular JavaScript library for building user interfaces. We've adopted the Single Page Application (SPA) approach to provide a seamless and responsive user experience.



DEVELOPMENT PROCESS

The development of SmartEd Connect followed Agile principles, allowing our team to adapt to changing requirements and deliver value incrementally. We organized sprints, held regular meetings, and conducted testing to ensure a collaborative and efficient development process.



CHALLENGES AND AREA OF IMPROVEMENT

Database Optimization

One of the notable challenges faced during development was optimizing the database schema for scalability and performance. We are actively exploring solutions to enhance database management.

Security Considerations

Security is a top priority, and we have diligently implemented encryption, hashing, and authentication mechanisms. However, ongoing vigilance is required to identify and address potential vulnerabilities.

User Interface Design

Creating an intuitive and user-friendly interface presented design challenges. We are continuously seeking user feedback to refine the user experience.



LESSON LEARNED

Our development journey has yielded valuable lessons in project management, software development, and teamwork. These lessons, including the importance of thorough planning and regular testing, will guide us in future projects.

smartEdConnect

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Online School Management Web Application

smartEdConnect is meticulously crafted to assist you in efficiently managing your school information, ensuring a seamless transition to a digital environment

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CONCLUSION

In conclusion, the SmartEd Connect School Management System is poised to transform how educational institutions manage their operations. Our commitment to innovation and continuous improvement will drive us to enhance this system further. We are excited about the potential to contribute to the success of educational institutions worldwide and look forward to future enhancements and collaborations.

This comprehensive slides provides a detailed insight into the SmartEd Connect project, highlighting its architecture, technologies, features, development process, challenges, and the lessons learned. We are dedicated to delivering an exceptional solution for the education sector, making school management more efficient and effective. Thank you for joining us on this journey.