

StudyMate App – Technical Documentation

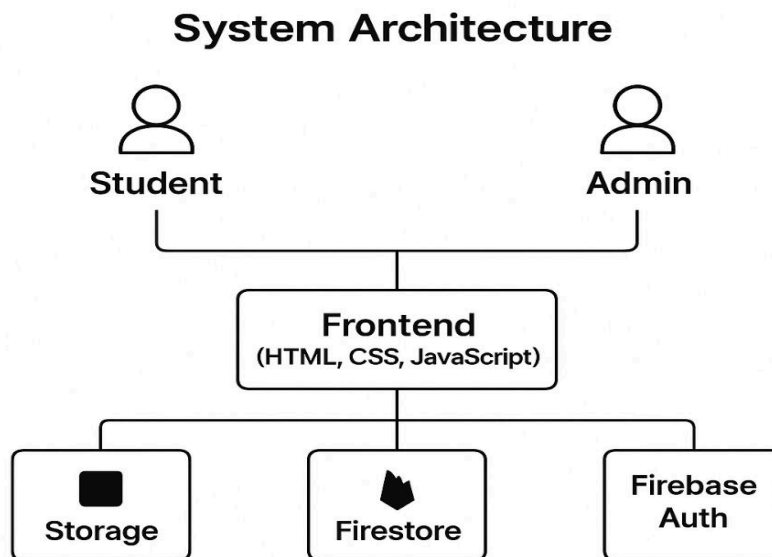
1. Project Overview

StudyMate is a digital learning platform that allows students to access notes and quizzes, while admins can manage content and users efficiently. The system aims to provide an intuitive, organized, and interactive learning experience. Key Features: - User authentication (Sign up, Login) - Admin dashboard for content management - Notes management (Add, Edit, Delete, View) - Quiz management (Add, Edit, Delete, View, and Student results tracking) - Responsive design for mobile and desktop - Integration with Firebase for storage, database, and authentication

2. System Architecture

Architecture Type: Client-Server (Web-based)

Components: 1. Frontend: HTML, CSS (Tailwind), JavaScript
2. Backend / Cloud Services: Firebase (Auth, Firestore, Storage)
3. Hosting: Netlify



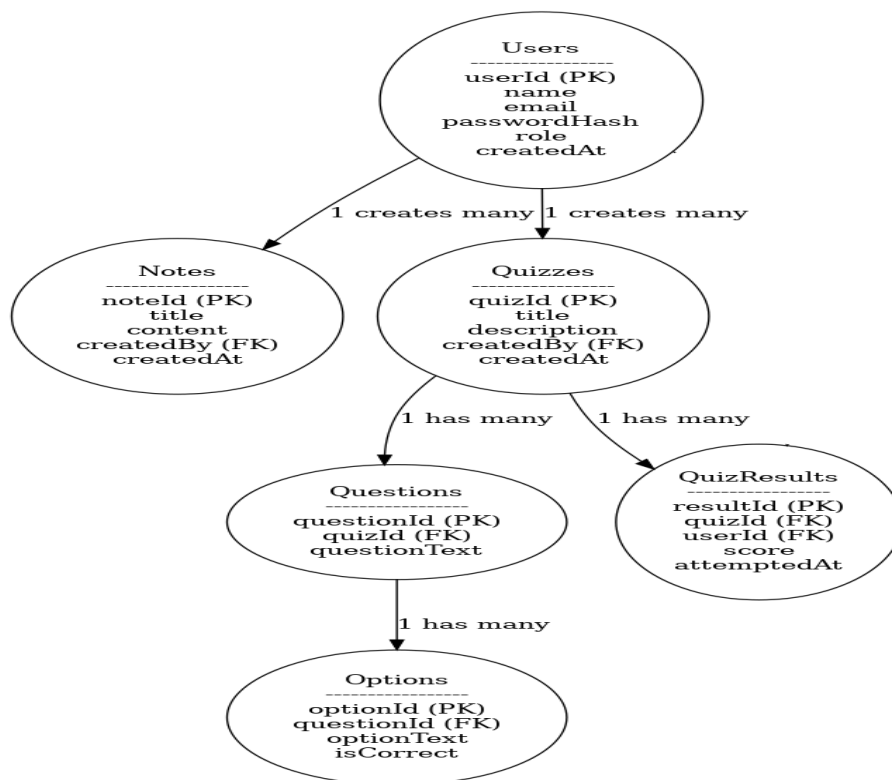
3. Technology Stack

Layer	Technology / Tool	Purpose
Frontend	HTML, Tailwind CSS	UI layout, styling, responsive design
	JavaScript	Dynamic content, event handling
Backend / Database	Firebase Firestore	Storing notes, quizzes, and users
Authentication	Firebase Auth	Sign up, login, access control
Storage	Firebase Storage	Uploading and storing note files/images
Hosting	Netlify	Deploying and hosting the app online

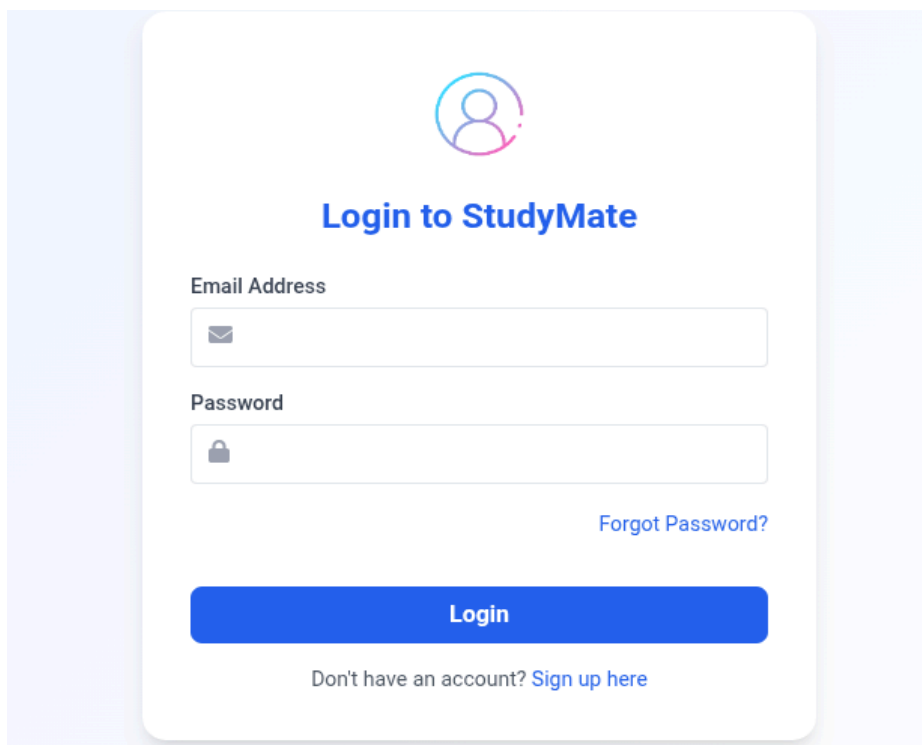
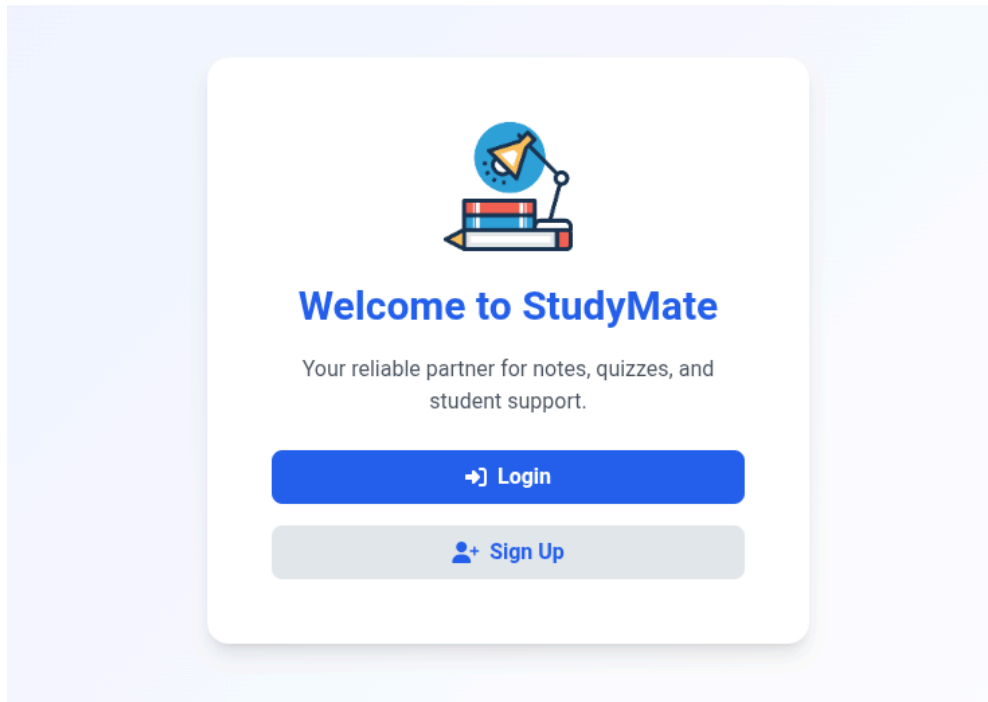
4. Database Design

Database: Firebase Firestore Collections & Sample Fields:

1. Users Collection: uid, name, email, role, createdAt
2. Notes Collection: id, title, description, fileUrl, createdBy, createdAt
3. Quizzes Collection: id, title, questions, createdBy, createdAt



5. UI Screenshots





Create Your Account

Full Name

Email Address

Password

Sign Up

Already have an account? [Login here](#)



StudyMate
Student



Dashboard



Notes



Quizzes



Logout

Welcome, Kwame Wedzi 🙌

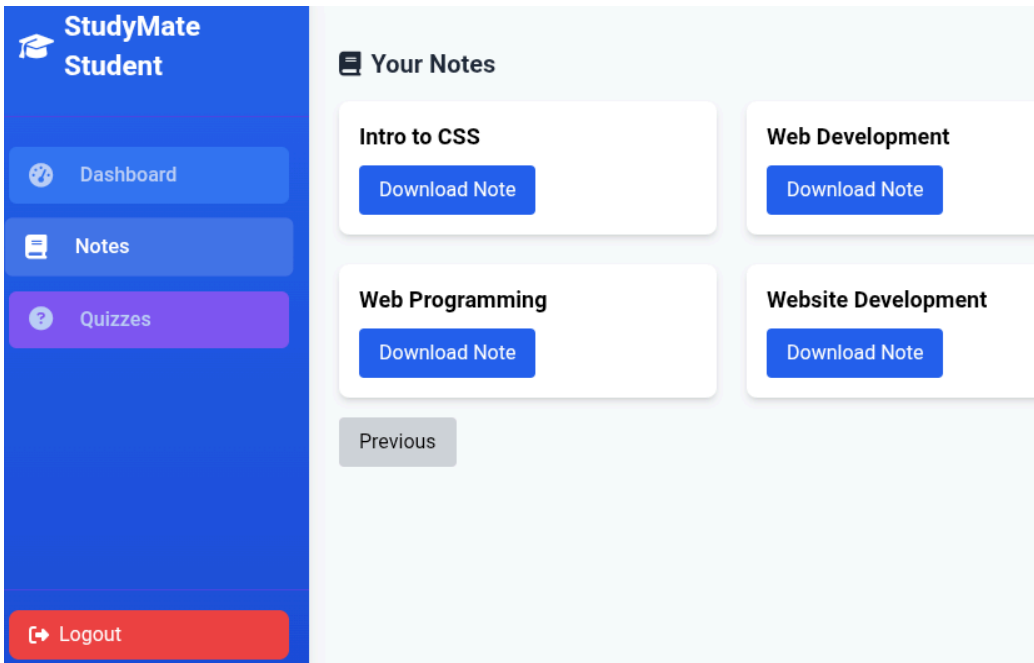
Here's what's new today:

Recently Uploaded Notes

- Intro to CSS
- Web Development
- Web Programming

Recently Uploaded Quizzes

- Intro to Web Design 2
- Intro to Web Design



StudyMate Admin

Notes

Quizzes

Users

Logout

Notes

Sort by: Newest

Intro to CSS

Edit

Delete

Download

Web Development

Edit

Delete

Download

Web Programming

Edit

Delete

Download

Website Development

Edit

Delete

Download

Previous

Next

StudyMate Student

Dashboard

Notes

Quizzes

Logout

Your Quizzes

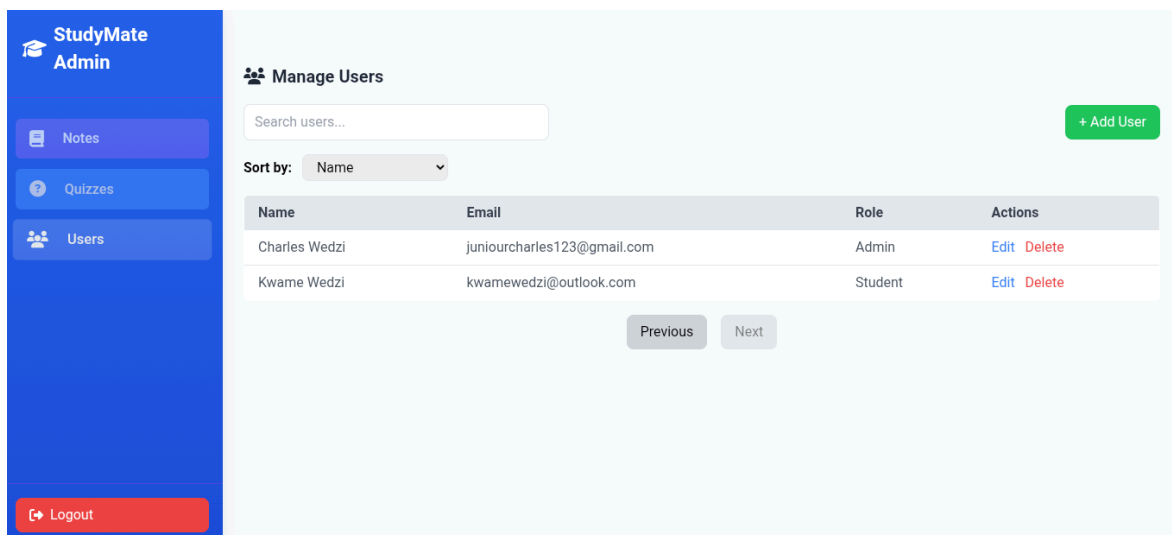
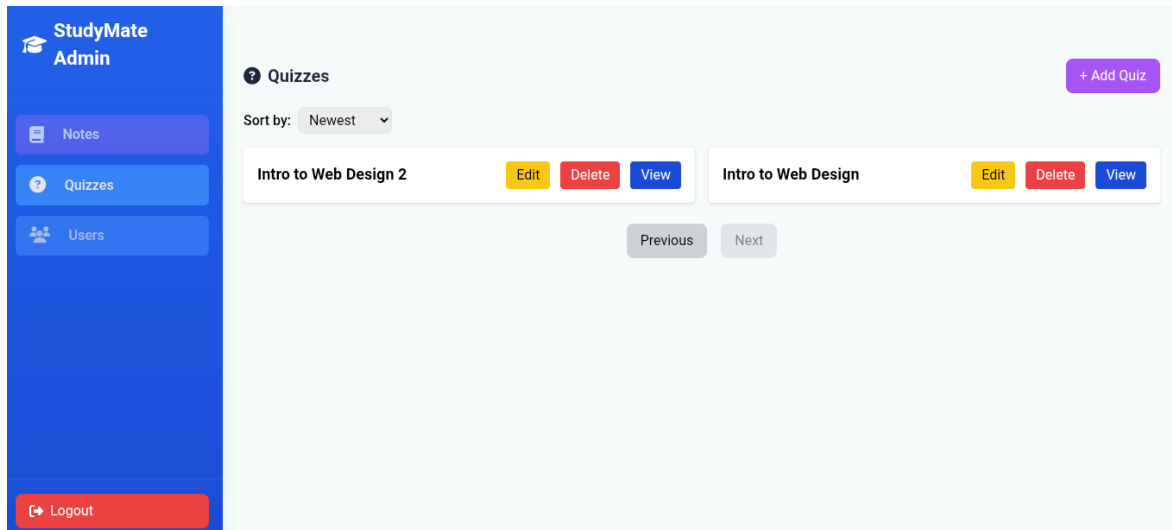
Intro to Web Design 2

Start Quiz

Intro to Web Design

Start Quiz

Previous



6. Testing Logs

Test Case	Expected Result	Actual Result	Status
User login with valid credentials	Login successful, redirect to dashboard	Passed	■
User login with invalid email	Display error message	Passed	■
Admin adds a new note	Note appears in dashboard	Passed	■
Admin edits a quiz	Quiz updated successfully	Passed	■
Student takes quiz	Result displayed after submission	Passed	■

7. Project Reflections

Challenges:

- Ensuring proper role-based access control (Admin vs Student)

- Designing a responsive and user-friendly interface - Handling dynamic quiz and notes CRUD operations

Lessons Learned:

- Working with Firebase Firestore for real-time database operations
- Implementing modal-based CRUD UI with Tailwind and JavaScript Integrating authentication and storage efficiently

Future Improvements:

- Add analytics for student performance tracking
- Implement offline access for notes
- Enhance UI with animations and better UX design