SPARTAN SCHOLARS

Web App Runthrough

Team: Trey Lemons, Aliyah Williams, Yajaira Alonso-Camarillo

TECH STACKS

- Front End
  - Spring Boot MVC
  - React components (Non SPA interactive features)
  - JavaScript
  - Bootstrap CSS (styling)
  - Fetch (async requests)

- Data + AI
  - Local File Storage (user uploads and documents)
  - OpenAI API (summarizing notes, creating quizzes/flashcards, chatbot)

- Backend
  - Java
  - Spring Boot (MVC+REST architecture)
  - Spring Security + BCrypt (authentication system)
  - PostgreSQL + JPA/Hibernate
  - Localhost Runtime Environment

System Architecture

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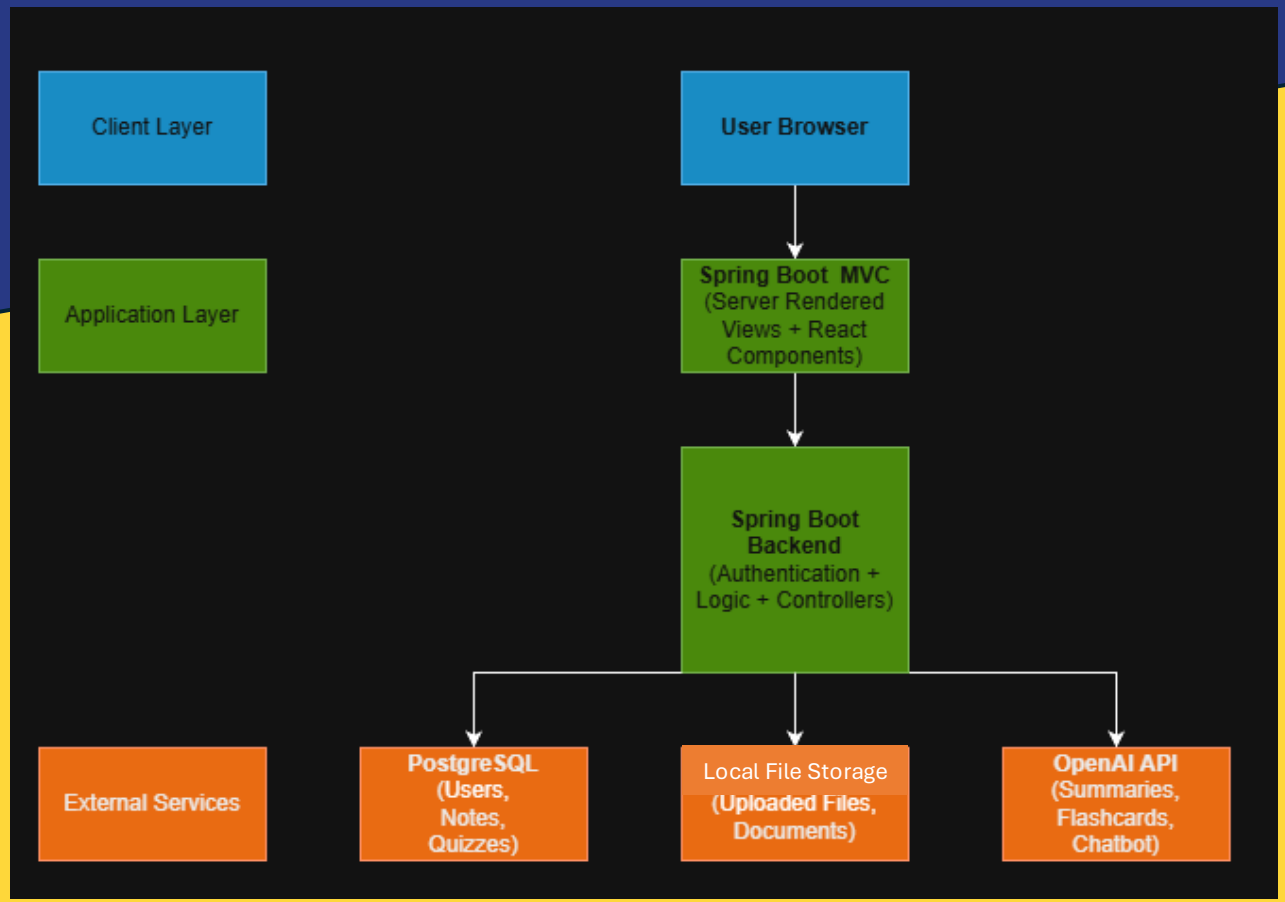

Division of Responsibilities

- Trey Lemons – Backend and System Architecture
  - Backend logic and Controllers (handles requests, processes data, decides what app does)
  - Database Schema Design (structure of tables and relationships for efficiency and integrity)
  - Notebook Module (create user notes that can be turned into quizzes/flashcards)
  - Ai Chatbot Integration (connect to OpenAI API for processing responses)
  - System Architecture (Ensure system connects and works together)
  - Additional Features (dark mode, professional answers, etc)

Division of Responsibilities

- Aliyah Williams – Frontend and User Interface
  - Structure (Spring Boot MVC)- view layer, building UI templates to connect to backend
  - UI Layout and Styling (Bootstrap ,CSS)-clean & responsive interface
  - Reusable Frontend components (Templates, React)
  - Dashboard and interface (JavaScript + Fetch)- to dynamically load user data & progress info
  - Analytics display (JavaScript + Fetch)
  - Flashcard and Quiz interfaces (Bootstrap, React + JavaScript (Interactive behavior))

Division of Responsibilities

- Yajaira Alonso-Camarillo – Features and User Systems
  - Authentication and Login System (Spring Security & BCrypt) – for secure user access
  - Study group functionality (for collaboration between users)
  - Discussion board system
  - File upload system (to upload notes and documents to easily create study tools)
  - Topic exploration pages

- Week 1: Planning, Setup, & Database Schema
  - Finalize architecture + schema
  - Set up GitHub Repository
  - Initialize Spring Boot Project
- Week 2: Core Infrastructure Begins
  - Configure database connection
  - Implement authentication system
  - Create base UI templates
- Week 3: Core Features Implementation
  - Discussion Board implementation
  - File Upload system
  - Notebook system
- Week 4: Study Tools
  - Flashcards and Quizzes
  - Taking quizzes + scoring
  - Basic analytics

- Week 5: AI Integration
  - OpenAI integration
  - AI summaries + generation tools
  - Chatbot integration
- Week 6: Feature Complete
  - Integrate all modules
  - Full system testing
  - Bug fixes + stabilization
- Week 7 & 8: Testing and Finalization
  - UI improvements
  - Edge Case Testing
  - Final debugging
  - Demo Preparation + Presentation rehearsals