

Polytechnic University of Timisoara, CTI-EN Year 4

Team members:

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Docloc - CEBP Project 2

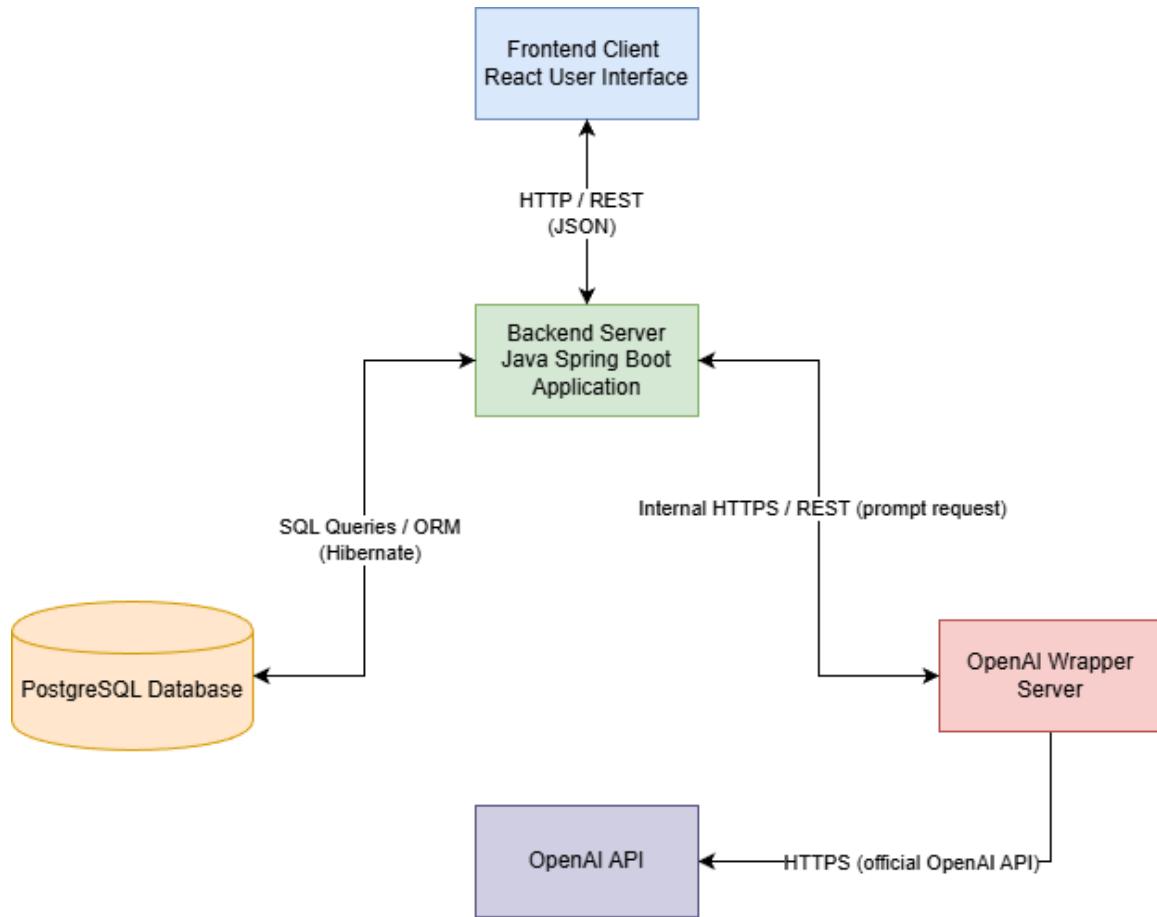
1. Application Description

An application for creating document summaries. The user uploads a document for an AI-powered synthesis. The document is processed and the user receives the essential information for the given document, which he then chooses to store or discard. The application is designed to encourage bulk studying and information management.

2. Main Functionalities

- Upload documents for AI-based summarization through the web interface.
- Generate summaries using the OpenAI-based pipeline for each uploaded document.
- Review summaries and decide to store or discard the result.
- Store and manage summaries (and related document metadata) for later study.
- Browse/search past summaries to support bulk studying and information management

3. High-Level Architecture Diagram



4. Architecture Description

The system uses a three-tier client–server architecture with an external AI service. The React frontend lets users upload documents, request summaries, and manage saved results. It communicates with a Java Spring Boot backend via HTTPS/REST using JSON. The backend handles business logic: validating uploads, orchestrating the summarization flow, and exposing endpoints for document and summary management.

The backend stores users, documents, and generated summaries in a PostgreSQL database, accessed via Hibernate ORM. For summarization, the backend calls an OpenAI wrapper server over internal HTTPS. This wrapper is responsible for talking to the external OpenAI API, managing API keys, prompts, and error handling, and returning a clean summary to the backend. Neither the frontend nor the database interacts directly with OpenAI; all access goes through the backend and wrapper for security and encapsulation.

5. Task Distribution

- Goga Florin - Frontend Developer, tasked with developing the graphic interface.
- Dohr Egon - AI Engineer, in charge of the wrapper server and managing the AI service.
- Faur Cristian-Ovidiu - DevOps, tasked with database management and deployment.
- Varga Sergiu - Backend Developer, in charge of the main backend server development.