Architecture Document

S6 Software Engineering

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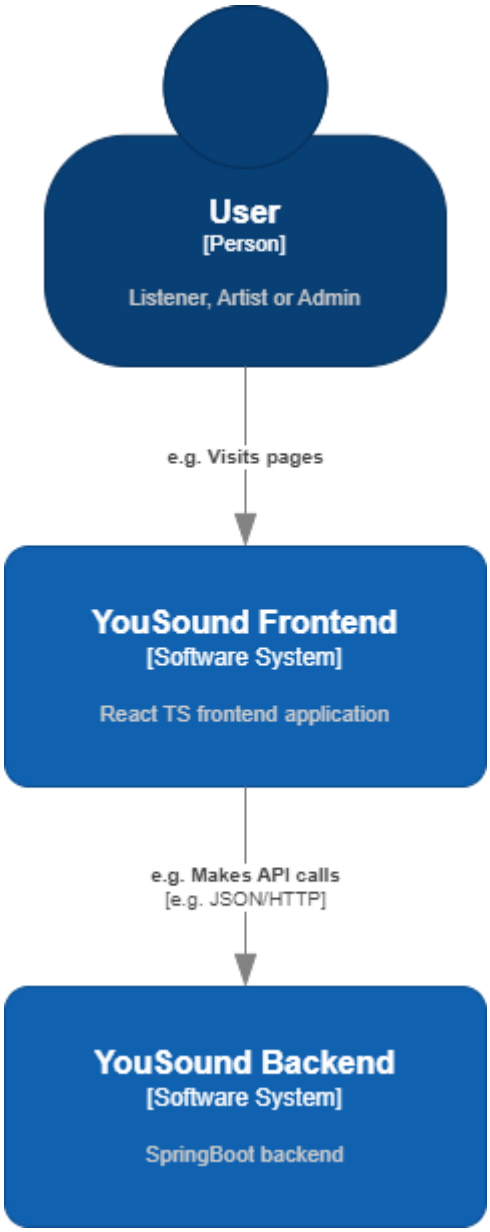
C1



This C1 Software Architecture diagram shows the highest overview of the YouSound project. A user visits the pages of the YouSound frontend application and uses its interface to make API calls to the Java SpringBoot backend

C2

See C2 Architecture Diagram in folder.

Link: https://github.com/MateiMitran/S6-YouSound/blob/master/documents/C2%20Architecture%20Diagram.png

This is a C2 Architecture diagram of the backend of my individual project, YouSound. The client, using a React TypeScript frontend application will send a HTTP request that will get routed to the specific microservice. The microservice's spring controller will receive the request than use the specific service class to CRUD data from the repositories that are connected to the specific database. This system is robust, designed using domain driven design. It is designed for a scalable architecture, so if any component crashes, the system will still be running.

Technologies

Typescript:

TypeScript is a programming language that provides numerous advantages compared to plain JavaScript. These benefits include superior type checking, simpler debugging and maintenance, improved integration with IDEs, and better organization of code. By detecting errors before runtime, TypeScript's static typing increases the dependability and ease of maintaining code, especially in extensive codebases.

React:

React is one of the most popular JavaScript libraries and allows developers to build interactive interfaces effectively. It allows managing the state of the application therefore ensuring better performance. React has a component-based architecture that allows code reusability and scalability.

Java Spring Boot:

Java Spring Boot is a very efficient framework that speeds up the process of Java development. It allows for reducing boilerplate code and the modular architecture enables easy integration with other technologies. It provides a wide range of tools for testing, deployment, and management, therefore being one of the most popular choices for building robust and scalable architectures.

MariaDB:

MongoDB is chosen for the User and Social services due to its flexible, document-oriented model that makes it an excellent fit for handling rapidly changing data. With MongoDB's inherent support for horizontal scaling through sharding, it efficiently accommodates the high-volume nature of social interaction data, and the evolving attributes of user profiles.

MongoDB:

The Music service, on the other hand, uses MariaDB, a highly performant relational database. The structured, consistent nature of music data makes it well-suited for a relational database. MariaDB's powerful querying capabilities, transactional integrity, and robustness

make it ideal for managing and querying our music metadata, ensuring the reliable delivery of music streaming services.