Research Plan

S6 Software Engineering

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Problem

Description

The goal of this project is to design and develop a hybrid music streaming platform that combines the features of Spotify and SoundCloud into a single, seamless platform. The platform should allow users to discover, play, and share music from a wide range of genres and sources, and provide a personalized user experience based on their preferences and behavior. The platform should also be scalable, robust, and easy to maintain, to ensure that it can handle large volumes of users and content over time.

The project will also involve the development of a robust software architecture that can handle the complexity and scale of the system. This architecture will be designed to social sharing and interaction, content ingestion and curation, and user account management. The platform should be easy to maintain and update over time, and that it can adapt to changes in the music industry and user behavior.

Statement

Music streaming platforms such as Spotify and SoundCloud have become increasingly popular in recent years, but each platform has its own unique features and limitations. Users often find it difficult to choose between these platforms and may even use multiple platforms to access different types of content. To address this issue, there is a need for a hybrid music streaming platform that combines the best features of these platforms and provides a better user experience. However, designing such a platform requires a comprehensive understanding of the relevant domains and subdomains, as well as a robust software architecture that can handle the complexity of the system.

Research

Main Question

"How can domain-driven design be used to design a hybrid music streaming platform that combines the features of Spotify and SoundCloud, and how can this approach help to better align the software with the needs and goals of its users?"

Sub Questions

1. What are the main domains and subdomains that are relevant to a music streaming platform like Spotify or SoundCloud, and how can they be modeled using DDD?
2. What are the benefits and challenges of using DDD to design a hybrid music streaming platform, and how can these be addressed?
3. How can the DDD models be continuously refined to better reflect the needs and goals of the users and the changes in the problem domain over time?
4. How can the hybrid music streaming platform ensure the security and privacy of user data and content, and how can this be incorporated into the DDD models and architecture to create a secure and reliable system?
5. What are the key design decisions and trade-offs involved in using DDD to design a music streaming platform, and how do these affect the overall architecture and performance of the system?

Research Methods

1. Document analysis of existing music streaming platforms, industry reports, and academic literature on DDD and software design
2. Literature review of DDD, software design, and music streaming platforms to identify relevant theories and concepts that can inform the research
3. Concept mapping to visualize the relationships between different domains and subdomains, and to identify gaps or overlaps in the domain model
4. Interviews with domain experts to gain a comprehensive understanding of the relevant domains and subdomains