SPOTIFY EXPLORATION

PRESENTED BY

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ARCHITECTURE OVERVIEW

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OLTP QUERIES

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Artist portfolio

Business Overview:

Spotify is a digital music streaming service providing convenient and legal alternative to traditional music consumption methods . Spotify provides users with access to a vast library of songs, podcasts, and other audio content. Users can create playlists, discover new music through personalized recommendations, and listen to their favorite tracks across various devices.

Business value: Spotify's business value lies in its subscription-based model, offering both free and premium plans. The platform generates revenue through subscription fees, advertising, and partnerships with artists. Additionally, Spotify utilizes sophisticated algorithms to analyze user preferences, enhancing the user experience and attracting advertisers.

Requirements for Design Consideration:

Functional Requirements	Non Functional Requirement
Music Streaming (Spotify must provide seamless streaming of a vast catalog of songs, albums, and playlists to users across different devices, ensuring a high-quality audio experience)	**Performance** (Spotify must deliver low-latency audio streaming, quick response times for user interactions, and efficient content loading)
User Authentication and Personalization (Secure authentication and authorization mechanisms. Personalized features, such as customized playlists, recommendations, and radio stations based on user preferences and listening history)	**Scalability** (Accommodate a growing user base and increasing demands on its infrastructure) Approx data point: The active user's bases =365 million, active premium users bases = 158 million,the low quality = 3MB per song,The high quality = 10MB per song, Can download up to 10,000 songs,30+ language support,60,000+ songs are uploaded daily, 8 million song creators yearly, 8k active artists
Playlist Management (enable users to create, edit, and manage playlists easily)	**Security** (robust security measures to protect user data, authentication credentials, and payment information. Compliance with industry standards and regulations is essential to ensure the confidentiality, integrity, and availability of user information)
Offline Mode (download music for offline listening)	**Reliability and Availability (**should be highly reliable, minimizing downtime and service interruptions. It needs to ensure high availability, allowing users to access their music and playlists consistently, even during peak usage times or unforeseen circumstances)
Social Integration (share their music activities, playlists, and favorite tracks)	**Compatibility** (devices, browsers, operating system to support diverse database