SDE Skills System Design Session Handout

Spotify is a popular music streaming service. It allows you to listen to millions of songs and podcasts on demand.

Tribal Knowledge

- Spotify has 574 million monthly active listeners as of 2024. Out of which 226 million are its premium subscribers, approx. 40%.
- There is a Netflix documentary on Spotify.

Functional Requirements

- Song/Music Management
  - Artists and music labels should be able to store songs and albums and see the user engagement statistics at per song granularity.
- Search & Discovery
  - Users should be able to find specific songs, artists, and albums.
  - Users should see personalized recommendations based on their listening history and preferences.
- Music playback
  - Users should be able to manage a playlist and add songs.
  - Users should have a smooth music playback experience across multiple devices like smartphones, tablets, etc.
  - Users should be able to support social features, allowing users to follow friends and share playlists.
  - (Optional) offline playback.

Non-Function Requirements

- Scalability: should be able to handle many users (574 million monthly active listeners)
- Availability: 99.95%
- Latency: Music payback should be smooth, minimum lag and high quality
- Durability: Music files will be stored for a long time, 20+ years.