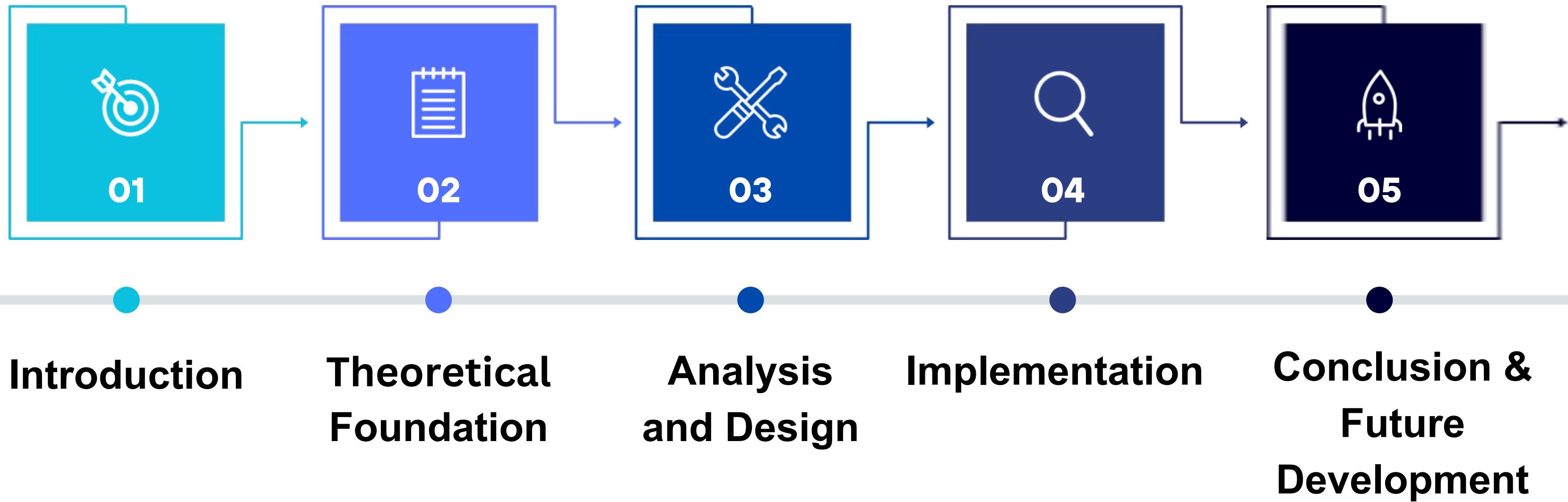


BUILDING THE JT-HARMONY MOBILE MUSIC APPLICATION WITH INTEGRATED RECOMMENDATION AND SHARING

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Content



Introduction



JT - Harmony

Reason for choosing the topic

Market Context

- ♪ The Vietnamese digital music market is growing at **25%** per year.
- ♪ **50 Million** potential users
- ♪ Young people are shifting towards a "Listen while Creating" trend.

Current Problems

- ♪ Market Gap: There is a lack of applications that effectively combine AI + Social + Creative elements.

Solution

- ♪ Create a platform that connects listeners and creators with the support of AI technology.

Features

Core Features

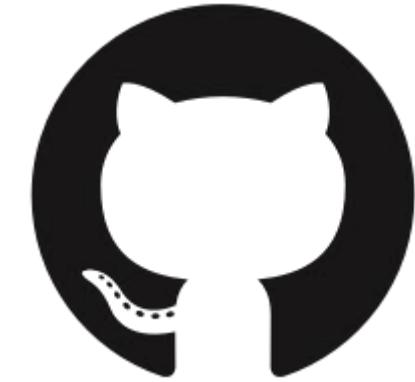
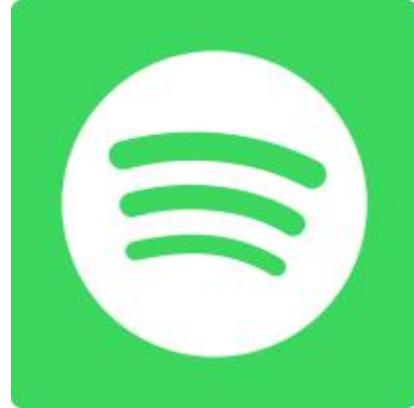
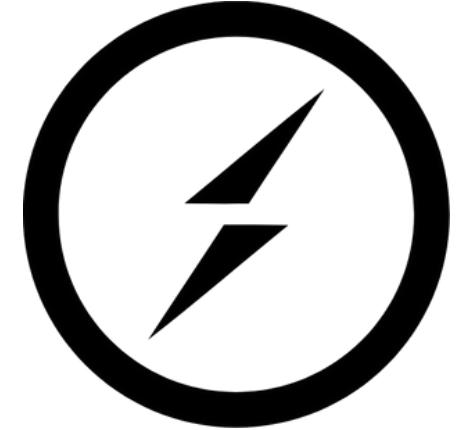
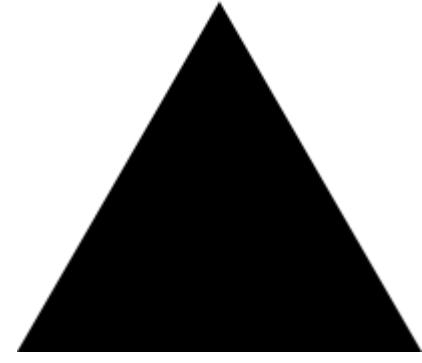
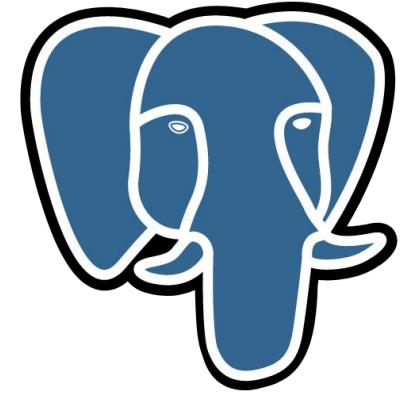
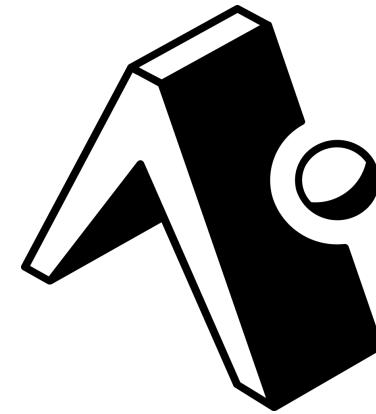
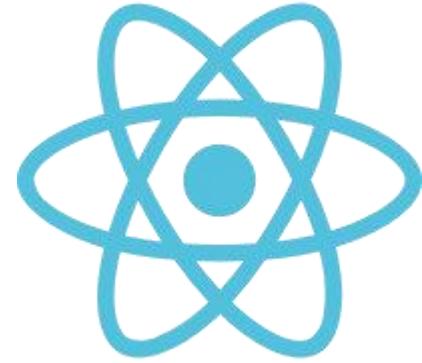
- ♪ Music Streaming: Search and listen to music.
- ♪ Playlist Management: Create, share, public/private playlists.
- ♪ User Management: Register/Login, Personal Profile.
- ♪ Social Features: Chat, Follow, Upload Covers/Original Songs.

Advanced Features

- ♪ AI Recommendations: Suggest music based on history, mood, activity, time, and preferences.



Technologies

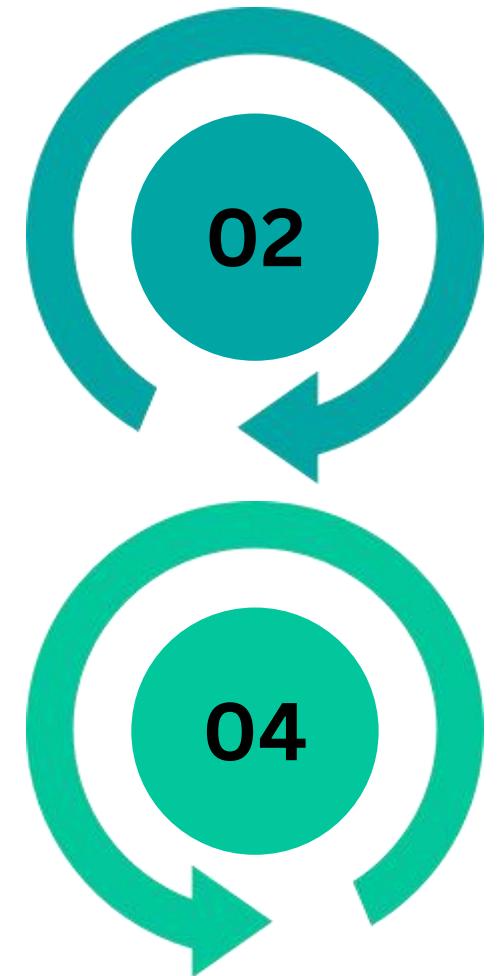


II. Theoretical Foundation



Demand

Solution



Problem

Challenges and
Opportunities

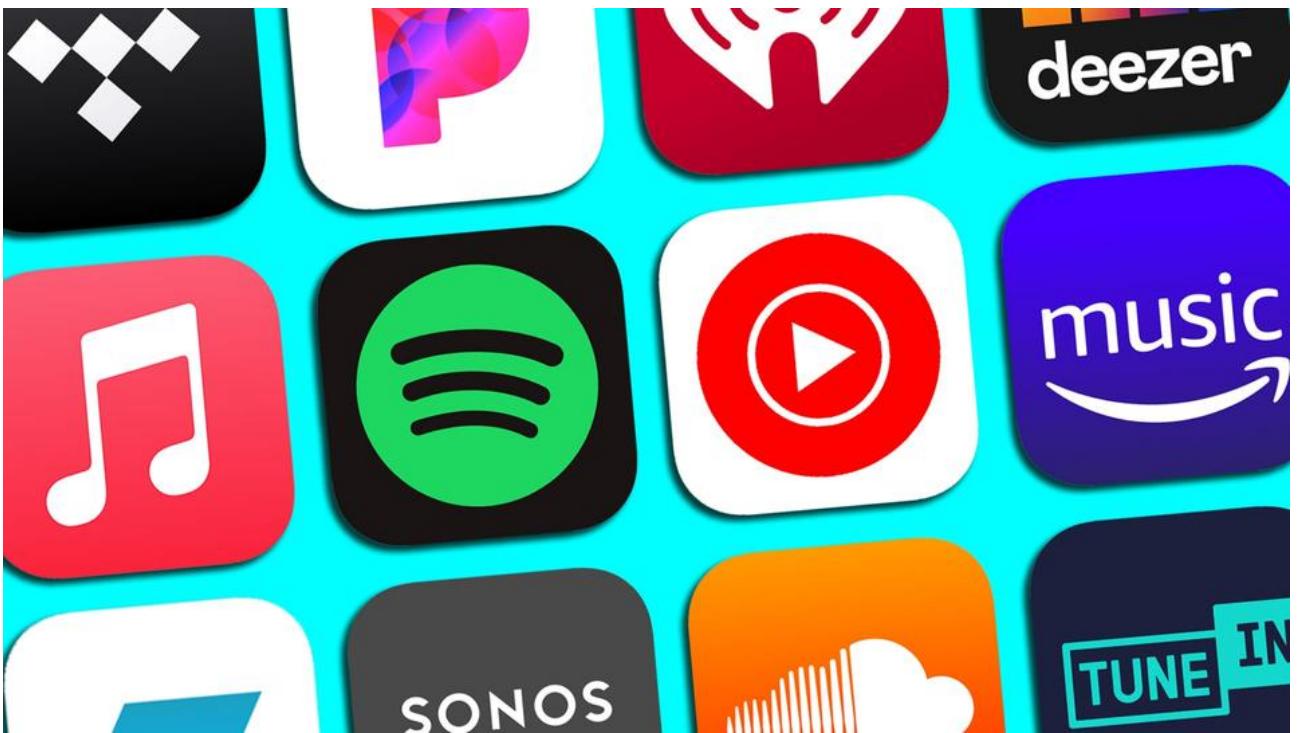


1. Demand

- ♪ Discover music based on personal preferences.
- ♪ Share and connect with the community.
- ♪ Need to express talent (Covers/Composing).
- ♪ Access high-quality Vietnamese music.

2. Problem

- ♪ Spotify: High cost, lacks social and creative features.
- ♪ ZingMP3/Nhaccuatui: Outdated technology, unoptimized user experience.
- ♪ TikTok/YouTube: Focused on video, not optimized for audio-only listening.





3. Solution

- ♪ Smart Music Recommendation (Gemini AI).
- ♪ Integration of music streaming & social networking.



4. Challenges and Opportunities

- ♪ Competition: Tech giants (Spotify, YouTube).
- ♪ Copyright: Licensing costs & legal issues.
- ♪ User Acquisition: Marketing costs.
- ♪ Growing Market: 50 million users.
- ♪ Technology Readiness: AI/ML, Cloud, Mobile App readiness.



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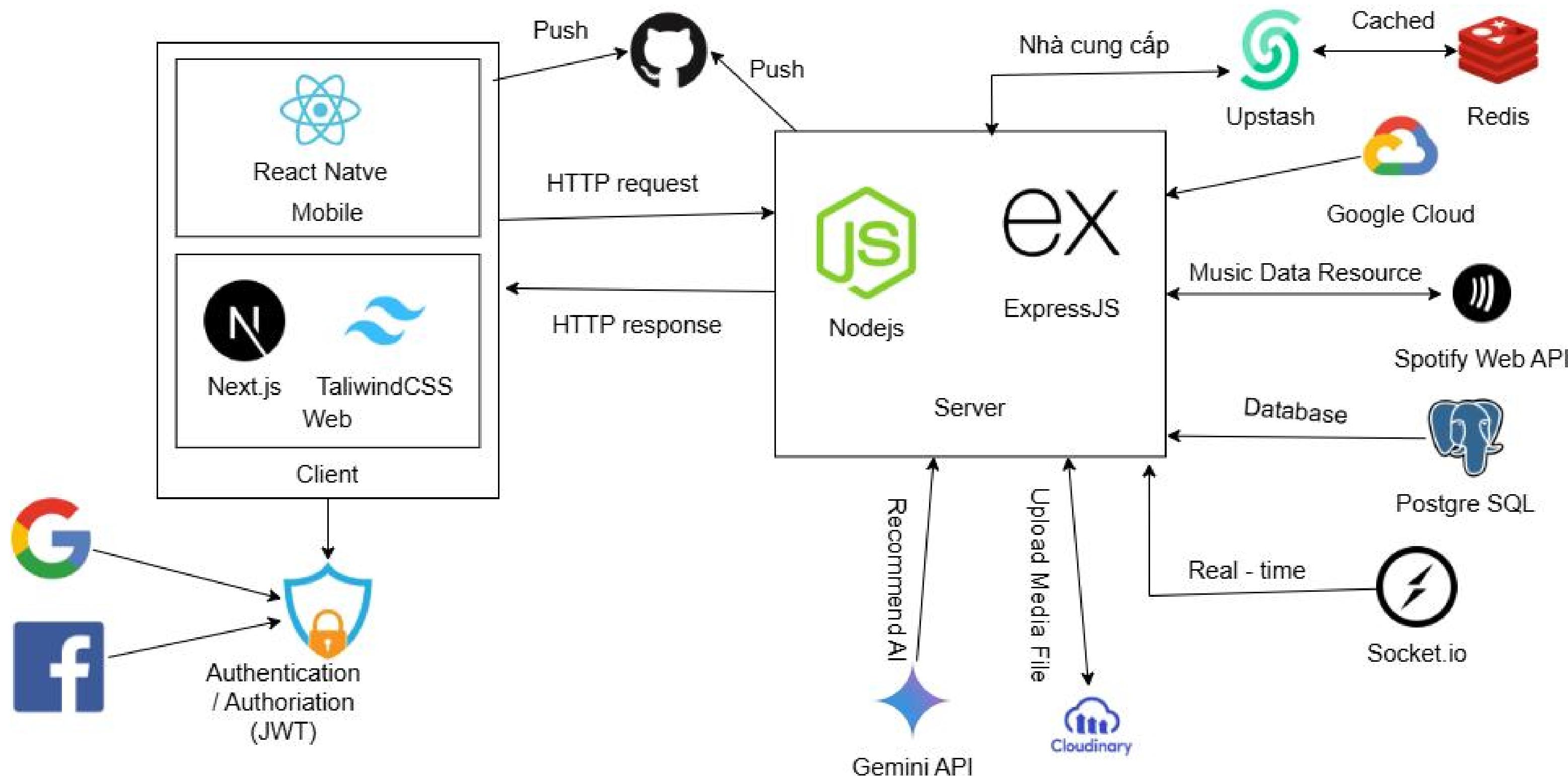
Analysis and design



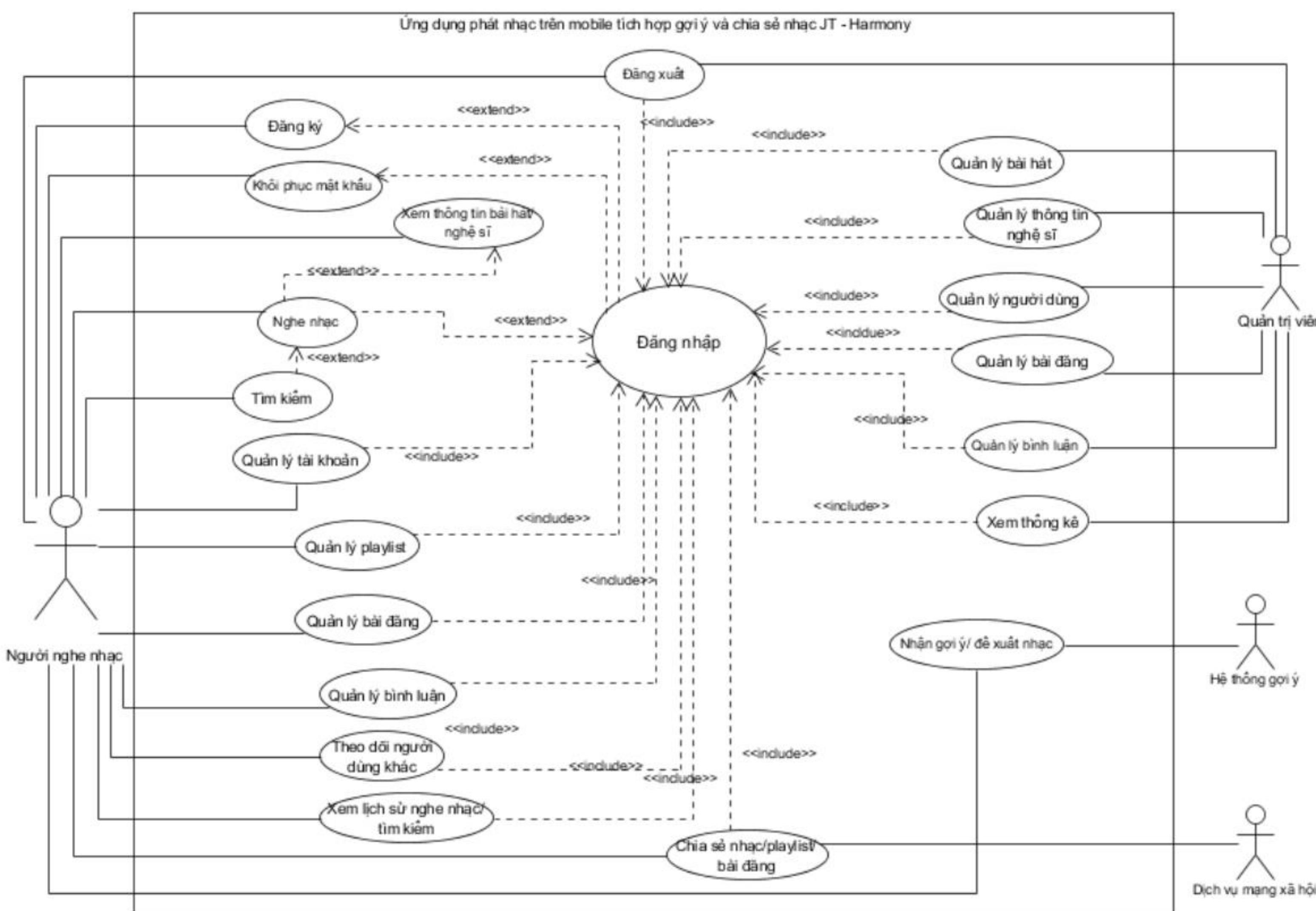
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System Architecture

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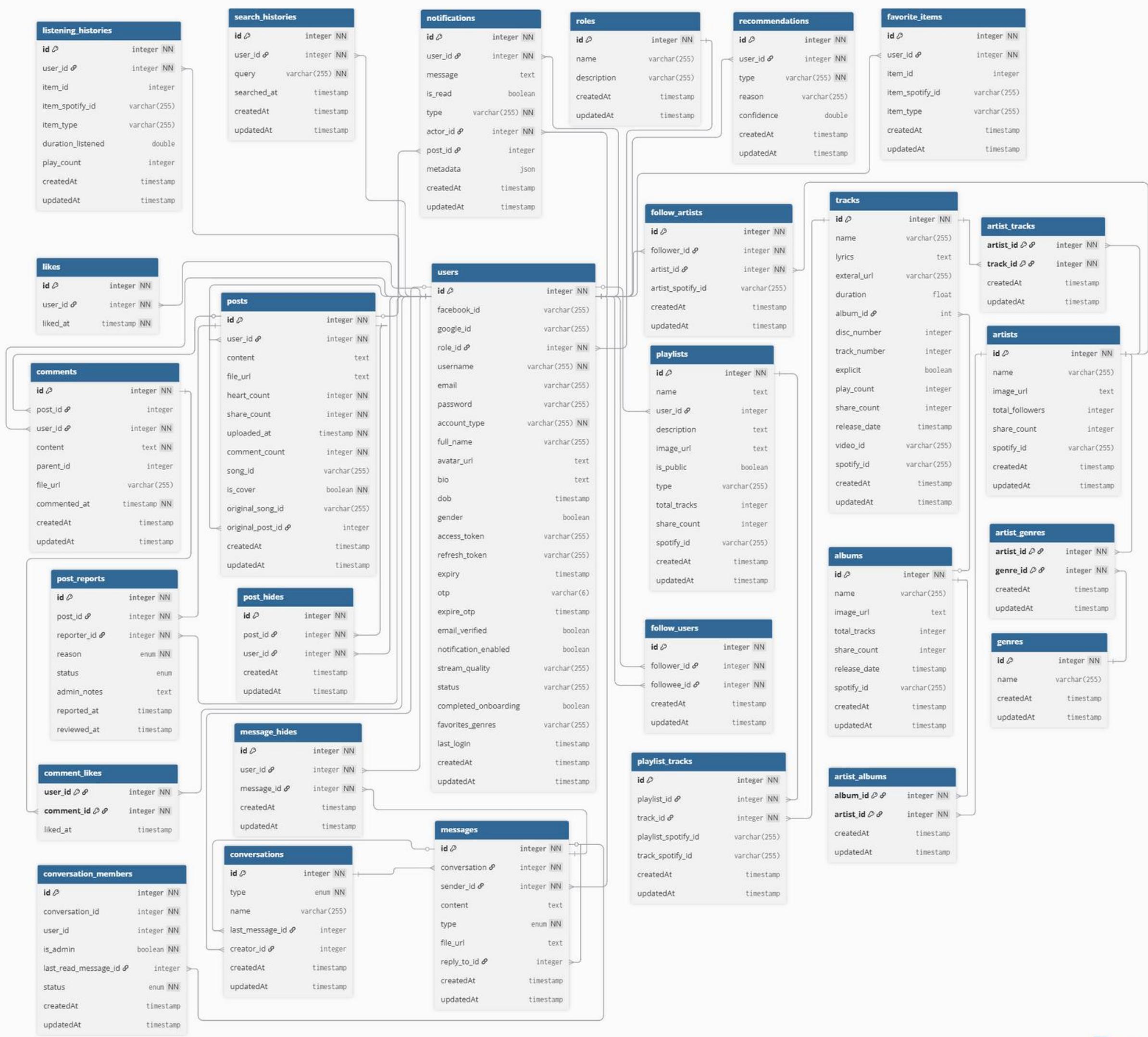
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Use Case Diagram

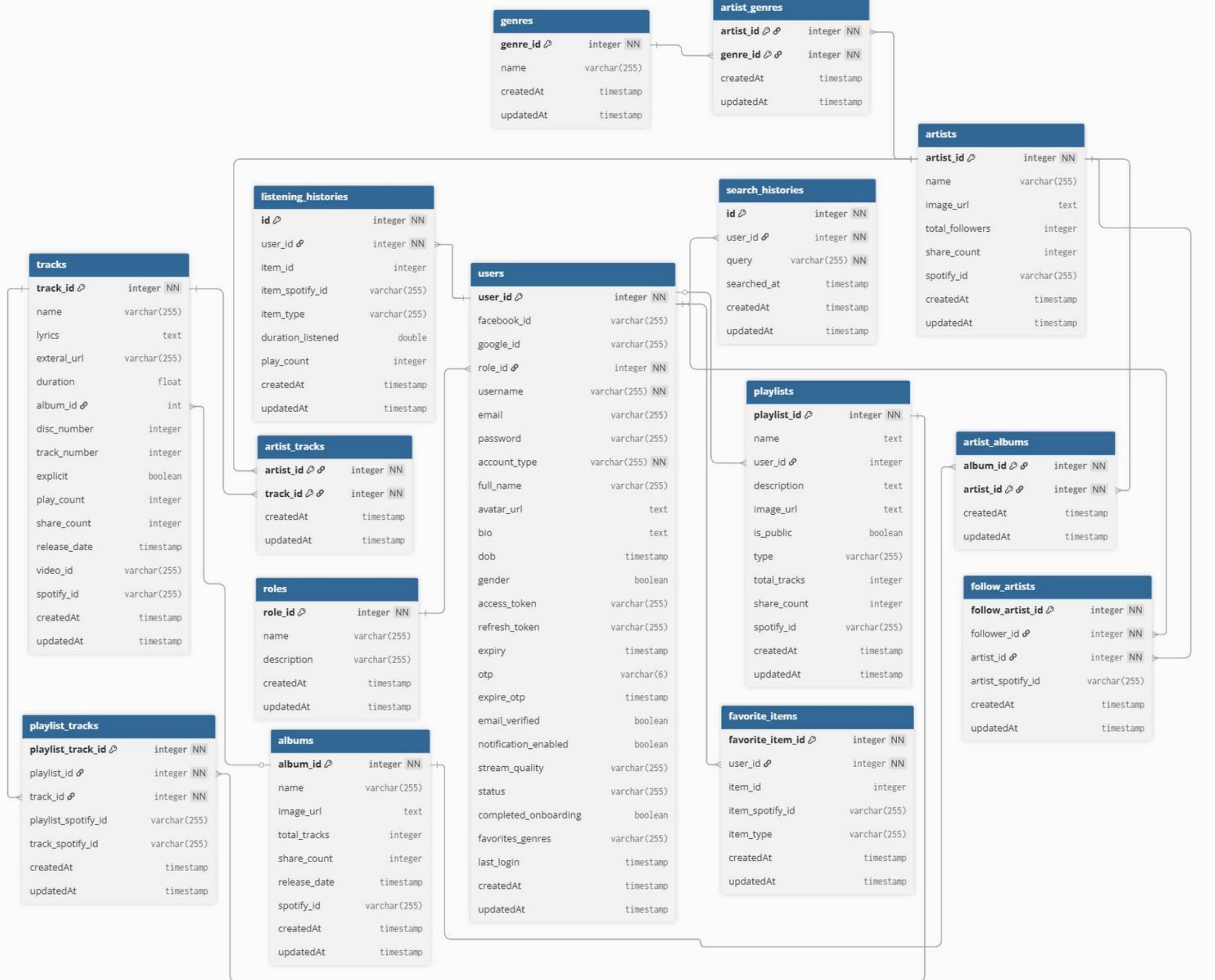


ERD Diagram

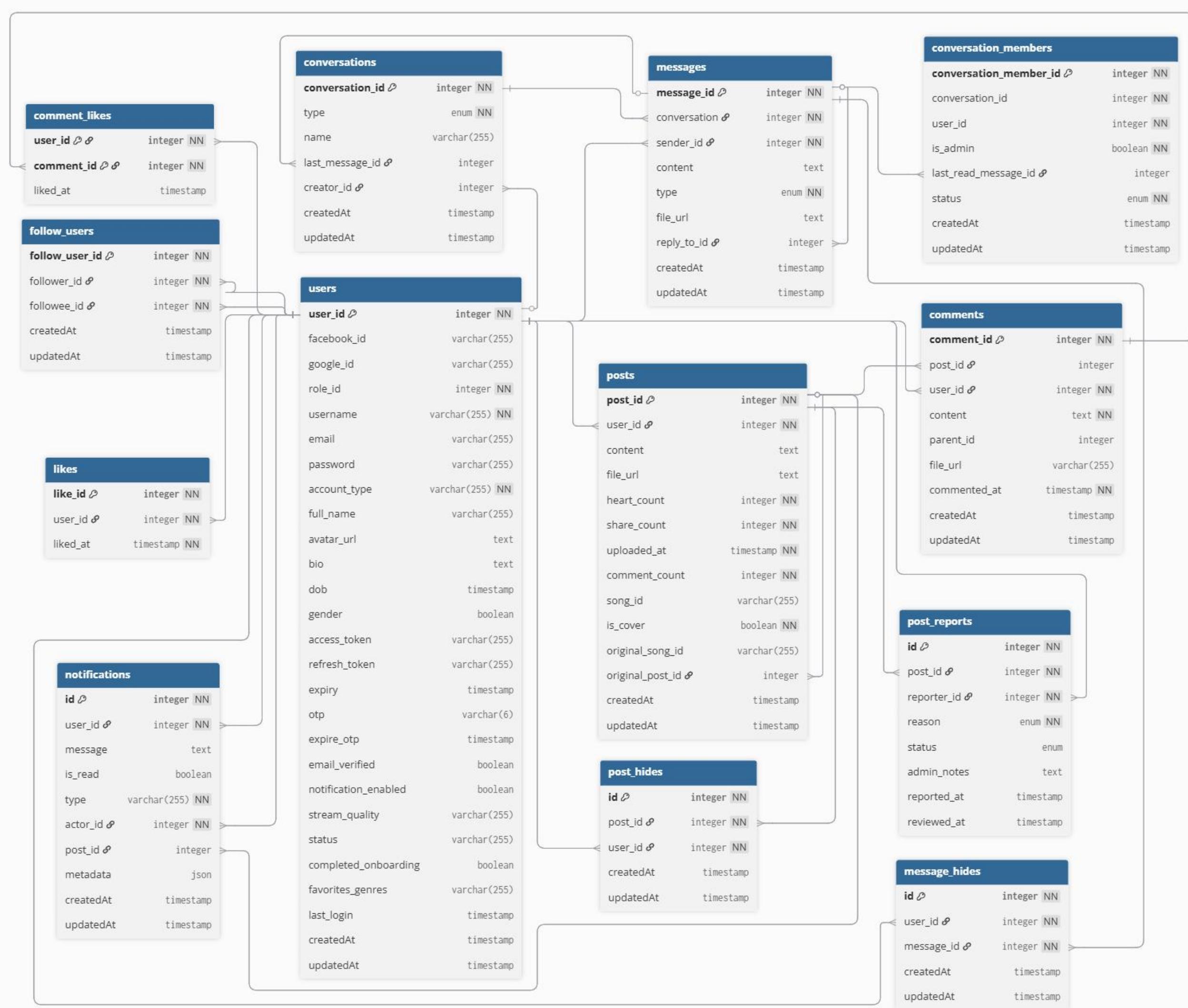




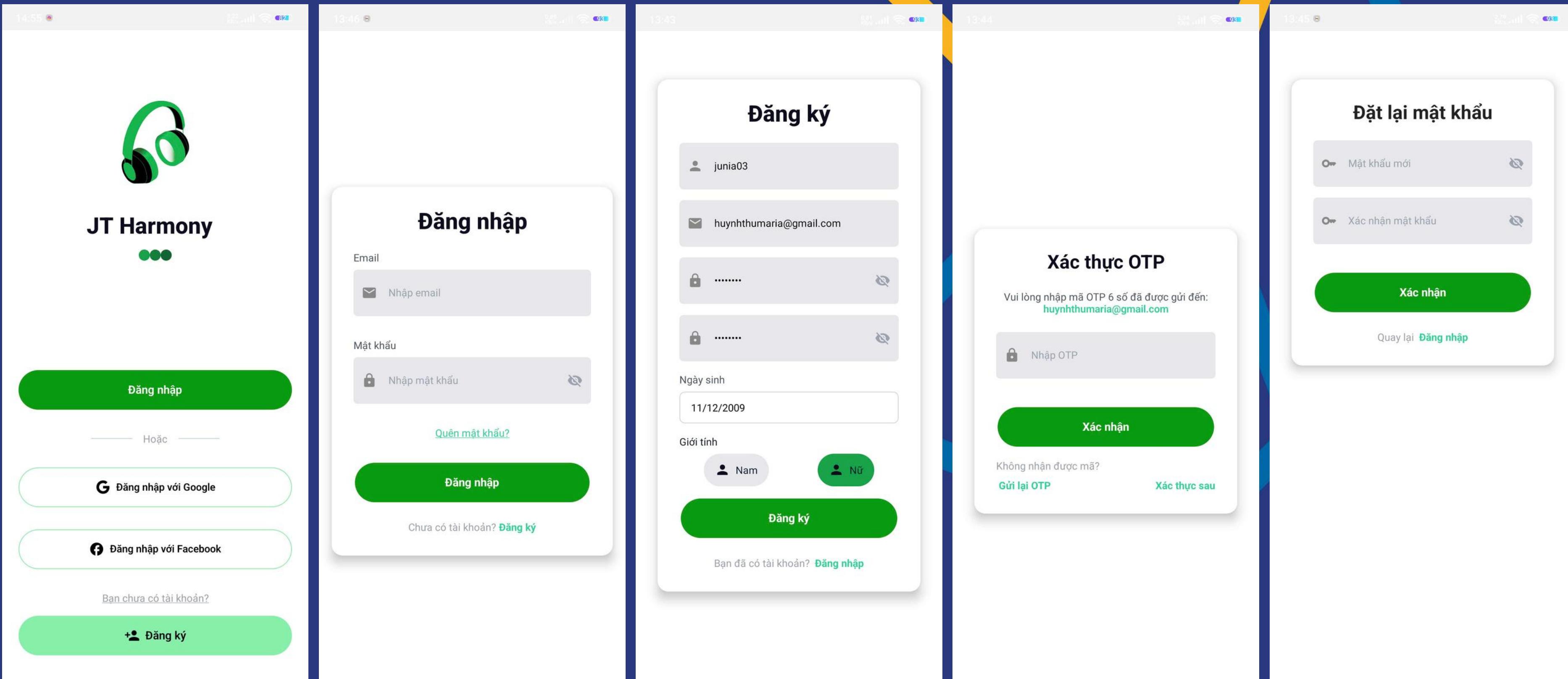
ERD Diagram (Music)



ERD Diagram (Social)



III. Analysis and design



Login/Logout Screen

III. Analysis and design

Home Screen:

- Nhạc Nghe Trên Xe (Car Music):** Nhạc Trẻ Remix 2025. Includes tracks like REMIX KHÔNG THỂ THIẾU, Nhạc Nghe Trên Xe, and Nhạc Trẻ Ballad.
- Danh sách phát phổ biến (Popular Playlists):**
 - Nhạc Trẻ Remix Tr... (84 bài hát)
 - Remix Nhạc Nghe T... (75 bài hát)
 - Nhạc Trẻ Ballad V... (50 bài hát)
- Nghệ sĩ đề xuất cho bạn (Recommended Artists):**
 - Sape Kay...
 - United Ar...
 - BTS
- Album chọn lọc dành cho bạn (Recommended Albums):** Home, Search, Social, Your Library, Profile.

Discovery Screen:

- Khám phá thể loại (Discovery Genres):** POP, K-POP, V-POP, C-POP, J-POP, RAP, ROCK, HIP-HOP, DANCE, INDIE, TAMIL, JAZZ.
- Search Bar:** Nhập tên bài hát, nghệ sĩ, album...

Profile Screen:

- Mari Trâm Bảo:** Email: baotrammari2003@gmail.com, Ngày sinh: 22/10/2008, Tiểu sử: Yêu Bangtan, thích màu tím và mèo.
- Cards:** Mục yêu thích, Danh sách phát, Nghệ sĩ.
- Switches:** Chế độ Tối/Sáng, Ngôn ngữ: undefined, Đăng xuất.

Library Screen:

- Thư viện của bạn (Your Library):** Bài hát yêu thích, Nghệ sĩ, Mục yêu thích, Đã tải xuống.
- Gần đây (Recent):** Album, Playlist, Nghệ sĩ.

Main screens

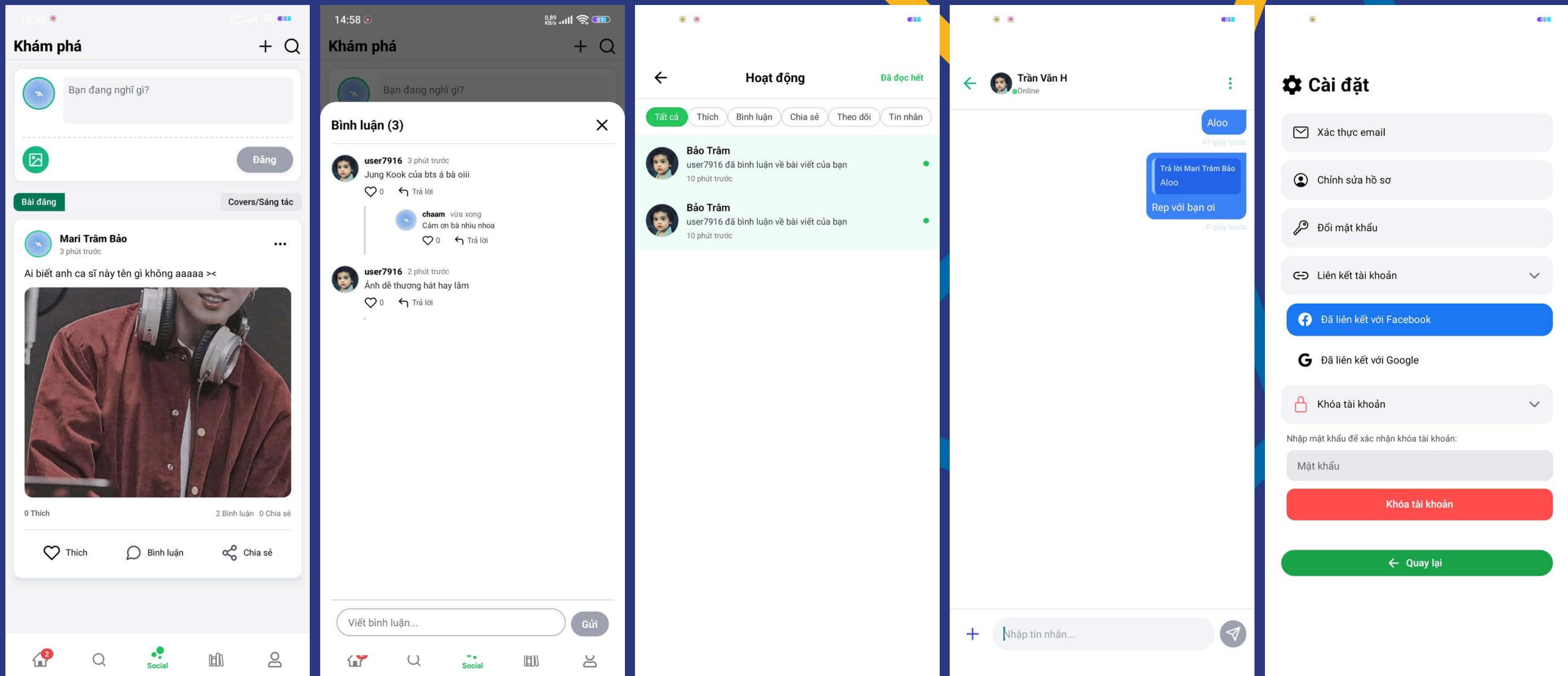
III. Analysis and design

The image displays five screenshots of a mobile application interface, likely a music player or streaming service, demonstrating its functionality:

- Screenshot 1 (Left):** Shows the main profile screen for the artist "BTS". It features a group photo of the band, a "Following" button, and sections for "Bài hát nổi bật" (Top songs) and "Album". Songs listed include "Life Goes On", "Dynamite", "DNA", "My Universe", and "Boy With Luv (feat. Halsey)".
- Screenshot 2 (Second from Left):** Shows a song detail screen for "Tùng Ngày Như Mãi Mãi" by buitruonglinh. It includes a preview image, song title, artist, and a "Danh sách bài hát" (Song list) section.
- Screenshot 3 (Third from Left):** Shows a playback screen for the song "(Mong Em Hạnh Phúc S"). It displays the song title, artist, playback controls (play/pause, skip), and a "Phát kế tiếp" (Next track) section.
- Screenshot 4 (Fourth from Left):** Shows a search results screen for "Bts". The search bar contains "Bts", and the results list various tracks by BTS, such as "BTS Cypher 4", "FIRE", and "Boy in Luv".
- Screenshot 5 (Right):** Shows a "Thêm vào danh sách phát này" (Add to playlist) screen. It lists songs from different artists and allows users to add them to a playlist, indicated by a green plus sign icon.

Functional screens

III. Analysis and design



Functional screens

User management page



The screenshot displays the User management page with the following sections:

- Quản Lý Người Dùng**: Overview of user counts (Total Users: 392, Active: 164, Locked: 70, Inactive: 86, Last login: 153 days ago). Includes a bar chart for recent logins and a donut chart for user status.
- Xu Hướng Truy Cập (7 ngày qua)**: Activity trend chart showing user logins over the past 7 days.
- Chất Lượng**: User account status distribution (Locked: 70, Active: 322, Inactive: 86).
- Thành Viên Mới**: New member statistics (0 new members in the last 7 days).
- Thông Kê Theo Dõi**: Follow statistics (Total Follow Artists: 789, Total Follow Users: 2435, Most Followed Artist: WOOSUNG, Most Followed User: Tae-hyung Cho). Includes a chart of top followed artists.
- Top Nghệ Sĩ**: Chart of top followed artists.

Tracking information management page

The screenshot displays the Administrator's management page with the following sections:

- Bảng Điều Khiển**: Dashboard with various metrics and reporting tools.
- Posts theo thời gian**, **Comments theo thời gian**, **Likes theo thời gian**: Time-based reporting for posts, comments, and likes.

Home

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Tổng Bài Hát: 754 items in database

Tổng Playlist: 61

Tổng Nghệ Sĩ: 200 items in database

Tổng Album: 69 items in database

Hành Vi & Tìm Kiếm
Phân tích từ khóa và tương tác
Q. TỪ KHÓA PHỔ BIẾN
Chưa có dữ liệu

Top Bài Hát
Xếp hạng theo chất lượng nghe

Rank	Tên bài	Artist	HQ plays
1	ETIKA's INTERLUDE	Ace Hashimoto	0
2	Hello	NU'EST	0
3	Đi Hợp Lớp	HIEUTHUHAI	0
4	Best 4 U	Maroon 5	0
5	Giờ Thi Ai Cười	HIEUTHUHAI	0

Top Nghệ Sĩ

Artist	Plays
BTS	3 plays
NU'EST	2 plays
HIEUTHUHAI	2 plays

Tỷ lệ yêu thích theo thể loại

Xu Hướng Hoạt Động
Lượt nghe và tìm kiếm trong 30 ngày qua

Khung giờ vàng
13:00 - 14:00

Lượt nghe / Tìm kiếm

Admin Quản trị viên

Music information statistics viewing page

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Quản Lý Bài Đăng
Quản lý bài đăng của người dùng và kiểm duyệt nội dung

Bộ lọc

Tim kiem	ID người dùng	Loại	Từ ngày	Đến ngày	Limit
Nội dung		Tất cả	mm/dd/yyyy	mm/dd/yyyy	50

Áp dụng **Đặt lại**

STT	ID	Tác Giả	Nội Dung	Lượt Thích	Bình Luận	Ngày Tạo	Hành Động
1	96	Mari Trâm Bảo @chaam · ID: 2735	Định	0	0	Dec 05, 2025	...
2	97	Mari Trâm Bảo @chaam · ID: 2735	file mp3	0	0	Dec 05, 2025	...
3	95	Mari Trâm Bảo @chaam · ID: 2735	Ghép bài này cũng hay	1	0	Dec 05, 2025	...
4	94	Mari Trâm Bảo @chaam · ID: 2735	Ai biết anh ca sĩ này tên gì không aaaa ><	0	3	Dec 04, 2025	...
5	93	Mari Trâm Bảo @chaam · ID: 2735	Hay quá ><	0	0	Dec 04, 2025	...

Trang 1

Admin Quản trị viên

III. Analysis and design

Administrator's management page

Conclusion & Future Development



JT - Harmony

Conclusion - Achievements

- ❖ Successfully built the complete JT-Harmony system, including the Mobile App for clients, Admin Dashboard, and Server system.
- ❖ Effectively met user needs for searching, online streaming, and creating personal playlists.
- ❖ Successfully implemented Real-time interaction features such as Chat, Comments, Cover uploads, and Instant Notifications using Socket.IO technology.
- ❖ Successfully integrated the recommendation model using Gemini AI, personalizing the music listening experience for users.

Conclusion - Limitations

-  Copyright Issues
-  Data Dependency
-  Missing Offline feature

Future Development

-  AI Upgrade: Retrain the recommendation model with a larger dataset (Big Data) to improve accuracy.
-  Security: Enhance security layers to better protect user data.
-  UI/UX Optimization: Optimize the user interface to enhance the user experience.
-  Multi-language Support



Thanks for watching



JT - Harmony