

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

Phan Thi Huynh Thu - Le Vo Duy Tuan

Supervisor: Msc. Nguyen Thi Hong Luong

Content



Introduction

**Theoretical
Foundation**

**Analysis
and Design**

Implementation

**Conclusion &
Future
Development**



Industrial
University of
Ho Chi Minh City

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

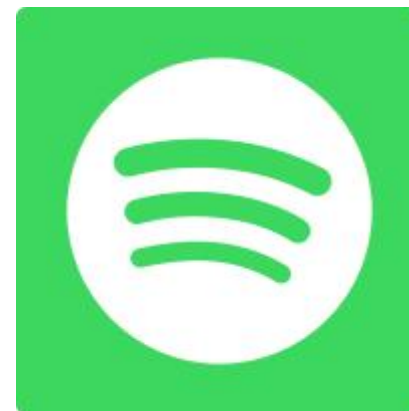
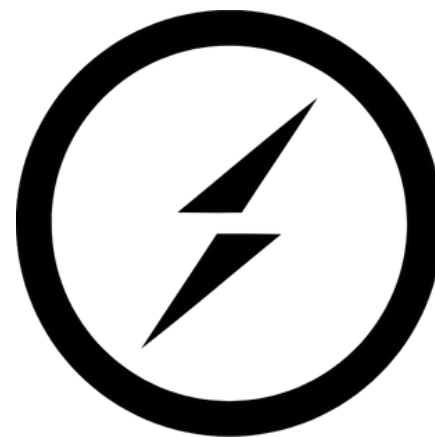
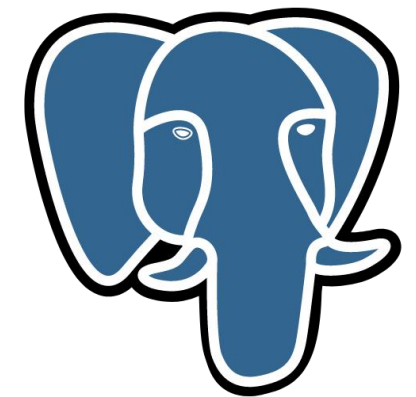
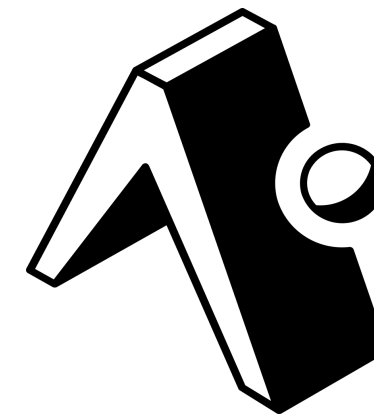
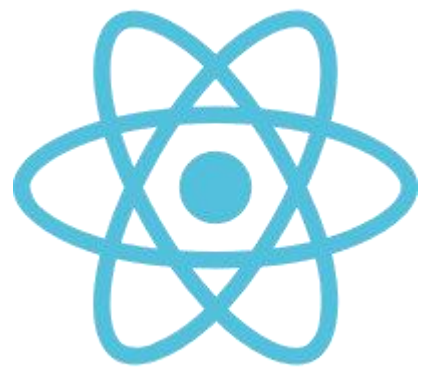
- ♪ Music Streaming: Search and listen to music.
- ♪ Playlist Management: Create, share, public/private playlists.
- ♪ User Management: Register/Login, Personal Profile.
- ♪ Social Features: Chat, Follow, Upload Covers/Original Songs.

Advanced Features

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



Technologies



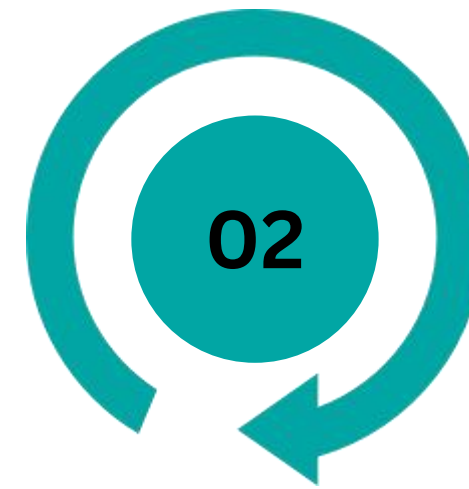
II. Theoretical Foundation



Demand



Solution



Problem



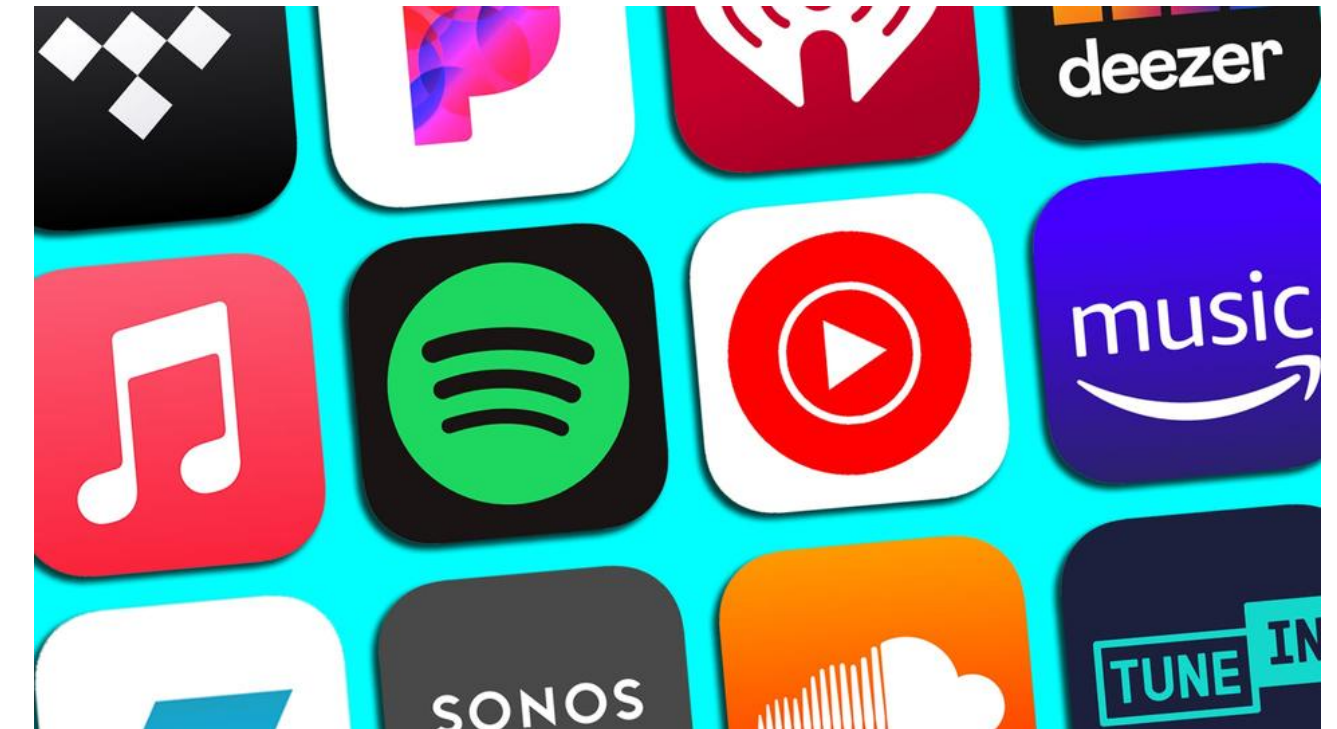
**Challenges and
Opportunities**

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.





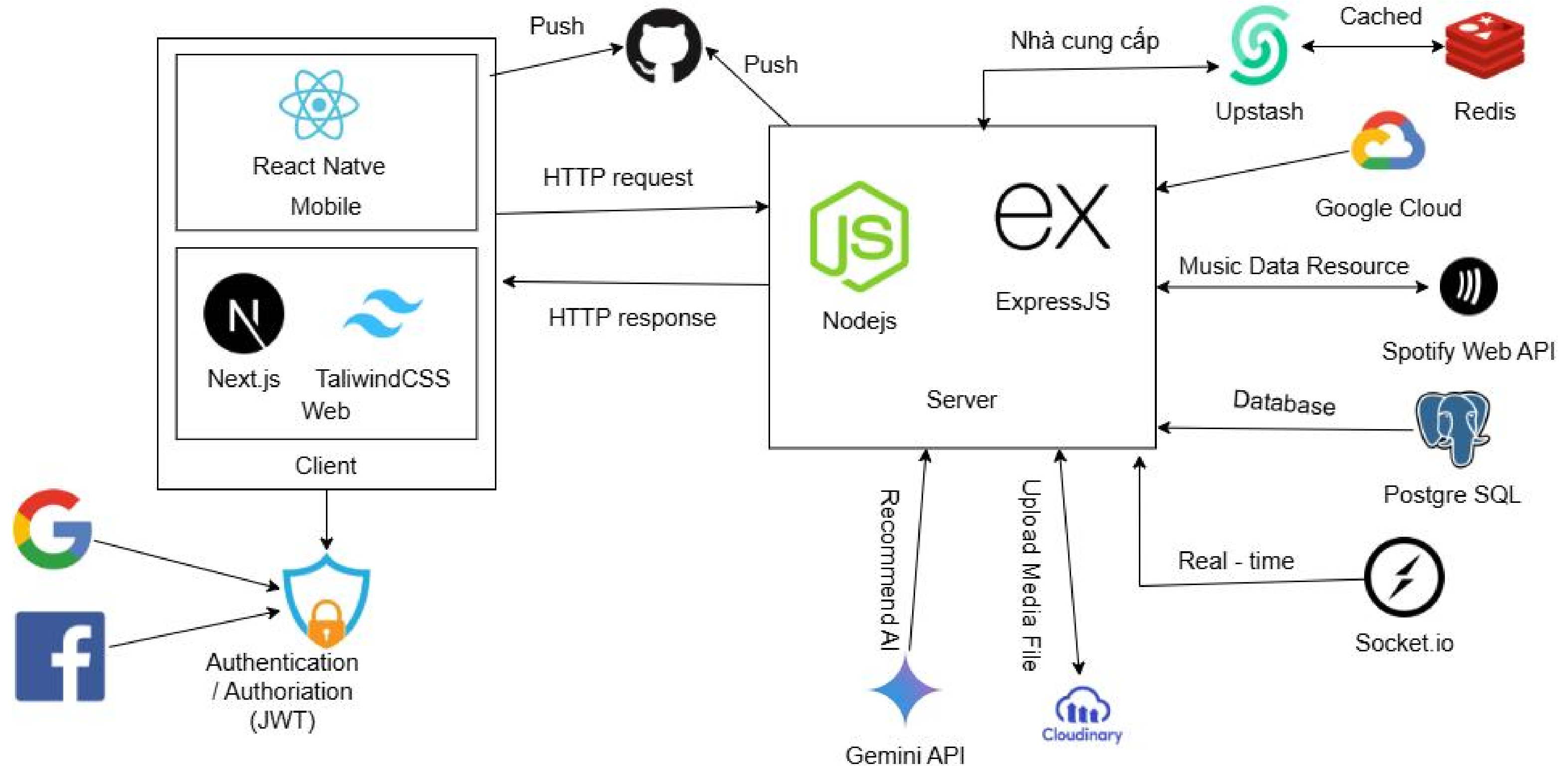
Industrial
University of
Ho Chi Minh City

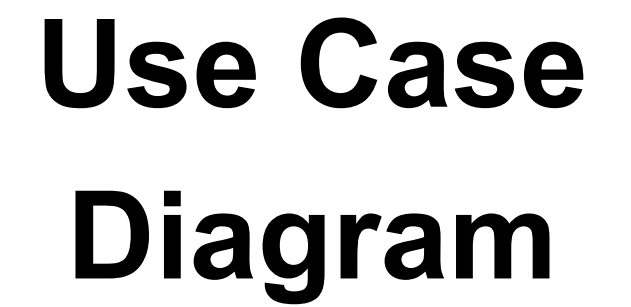
Analysis and design

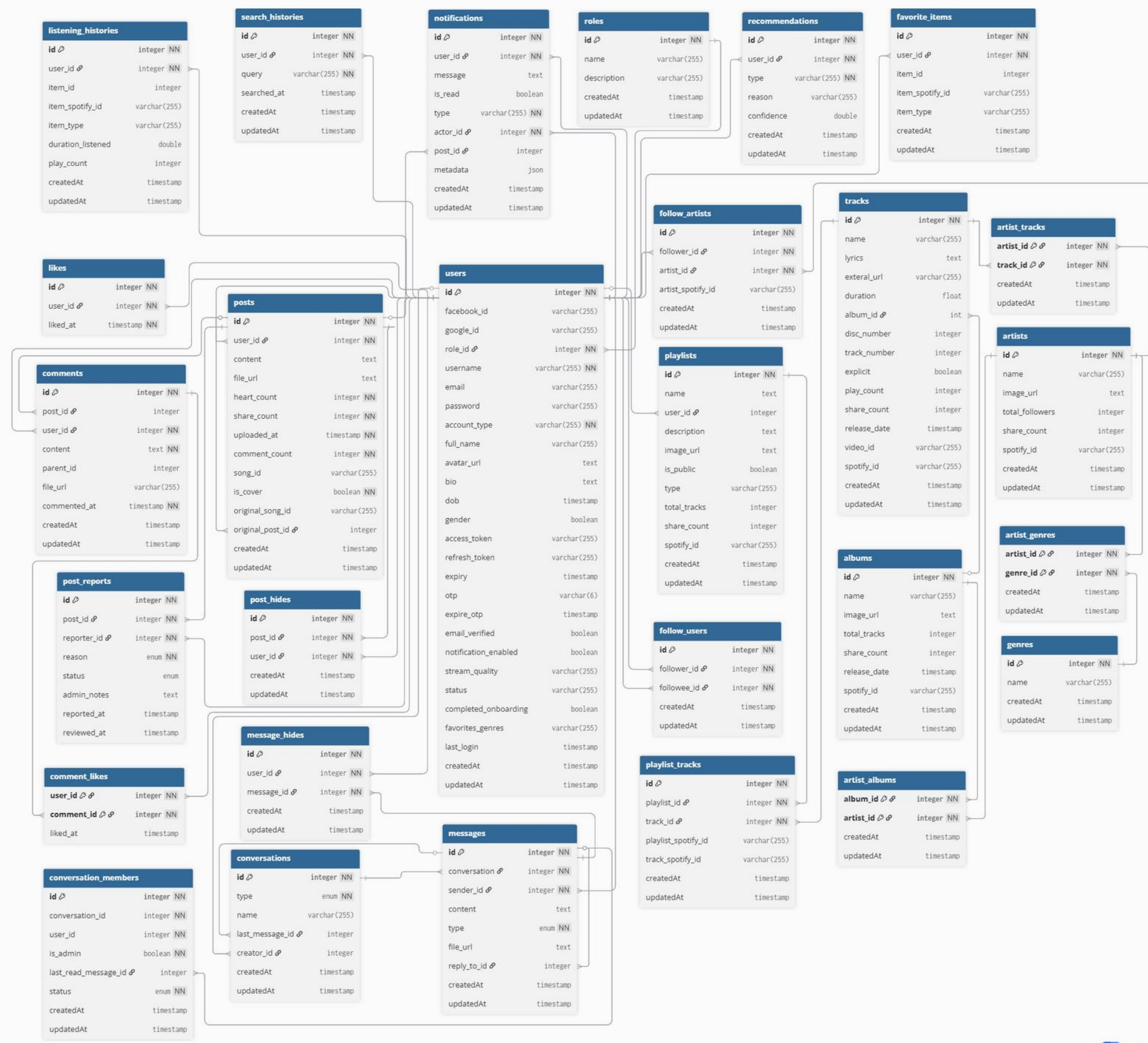


JT - Harmony

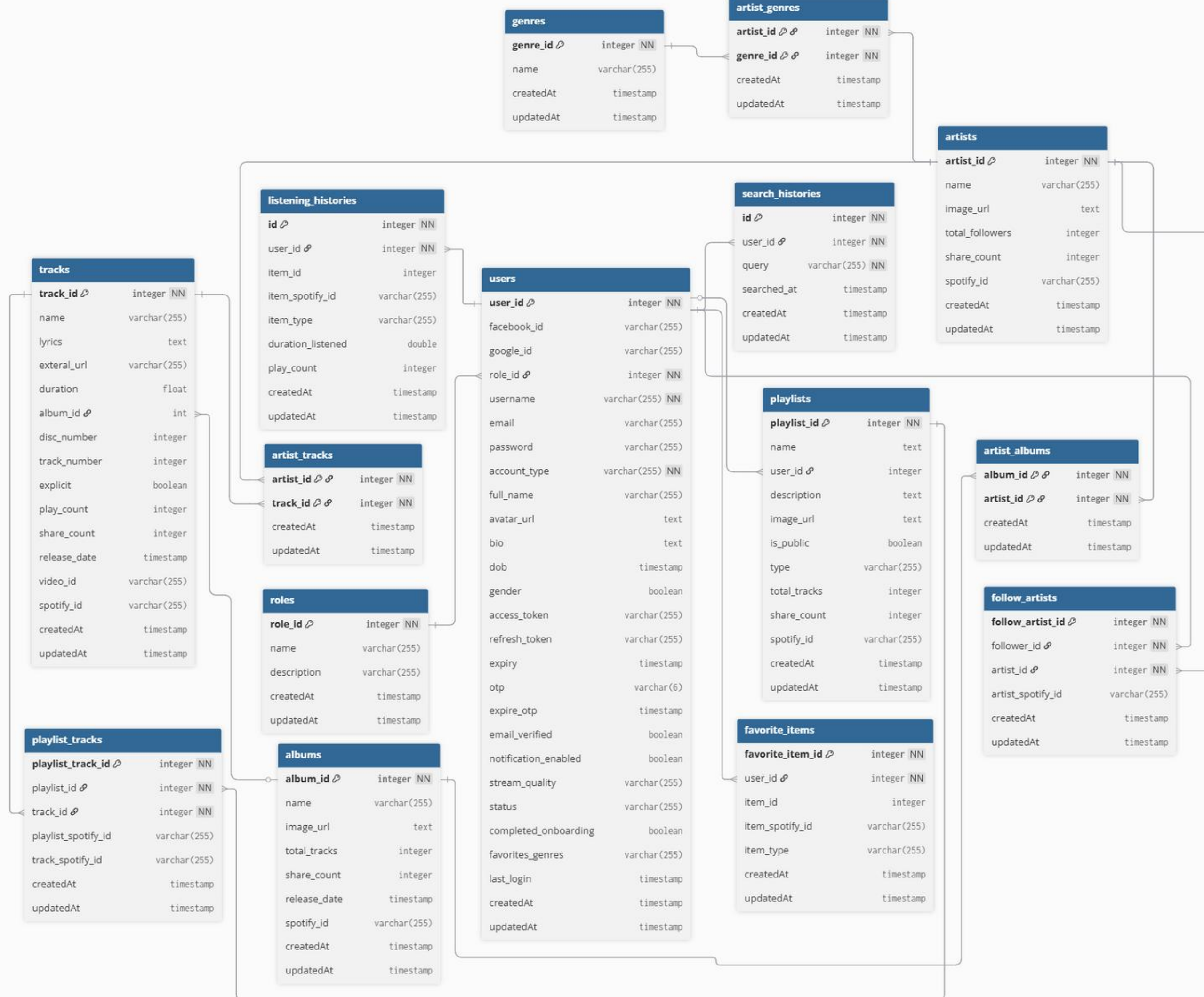
System Architecture



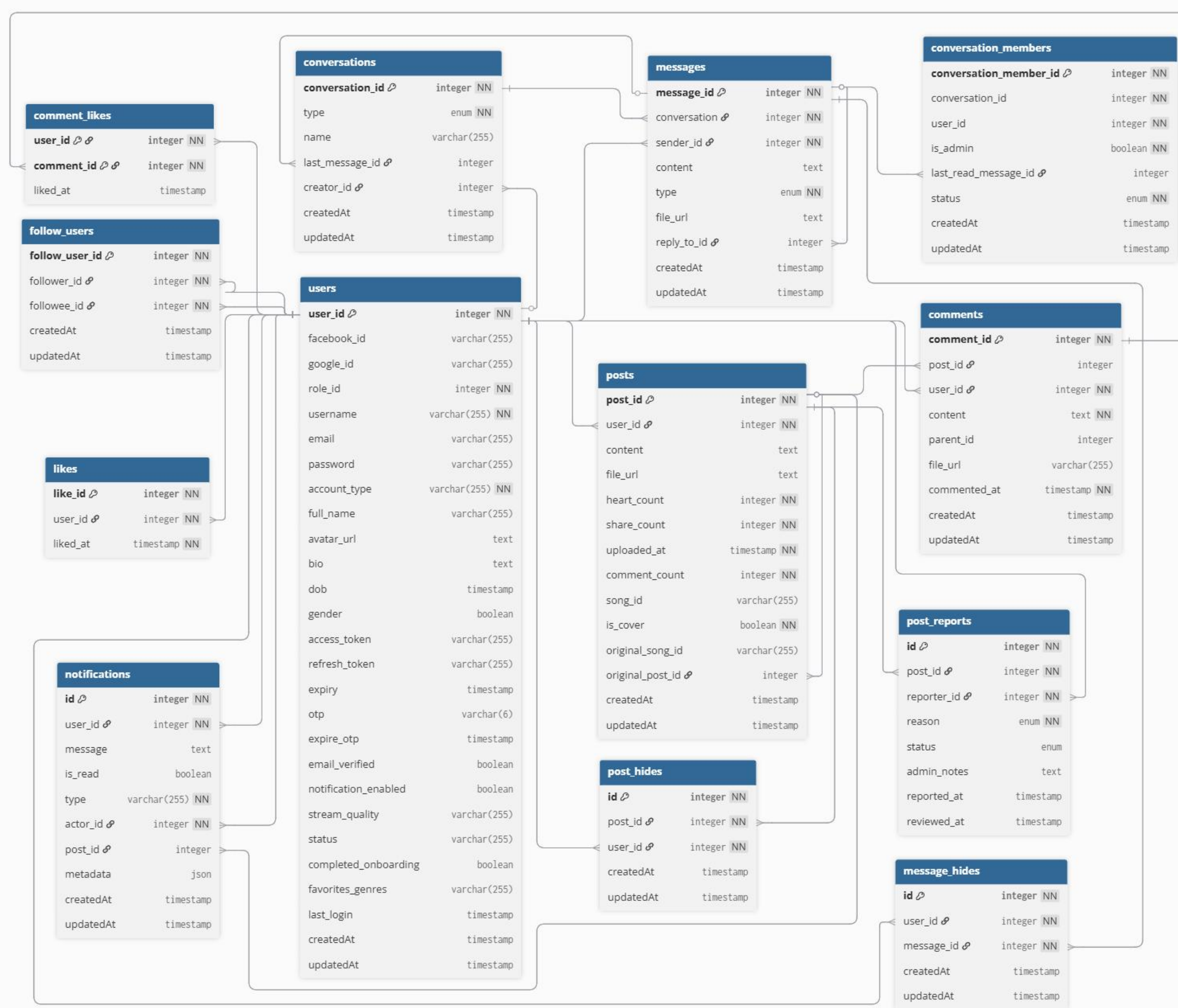




ERD Diagram




ERD Diagram (Music)



ERD Diagram (Social)

III. Analysis and design



JT Harmony

Đăng nhập

Hoặc

Đăng nhập với Google

Đăng nhập với Facebook

Bạn chưa có tài khoản?

Đăng ký

Đăng nhập

Email

Nhập email

Mật khẩu

Nhập mật khẩu

[Quên mật khẩu?](#)

Đăng nhập

Chưa có tài khoản? [Đăng ký](#)

Đăng ký

junia03

huynhthumaria@gmail.com

.....

.....

Ngày sinh

11/12/2009

Giới tính

Nam

Nữ

Đăng ký

Bạn đã có tài khoản? [Đăng nhập](#)

Xác thực OTP

Vui lòng nhập mã OTP 6 số đã được gửi đến:
huynhthumaria@gmail.com

Nhập OTP

Xác nhận

Không nhận được mã?
[Gửi lại OTP](#)

[Xác thực sau](#)

Đặt lại mật khẩu

Mật khẩu mới

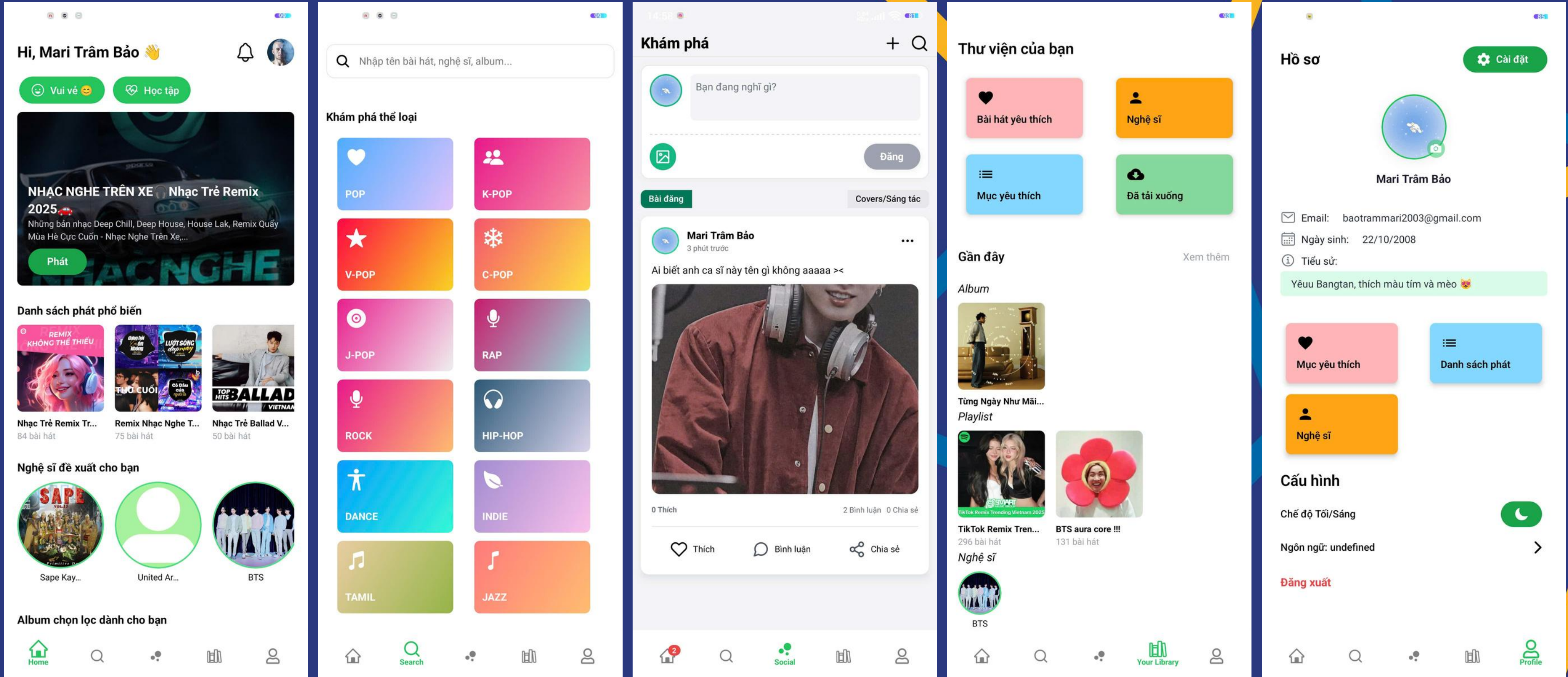
Xác nhận mật khẩu

Xác nhận

Quay lại [Đăng nhập](#)

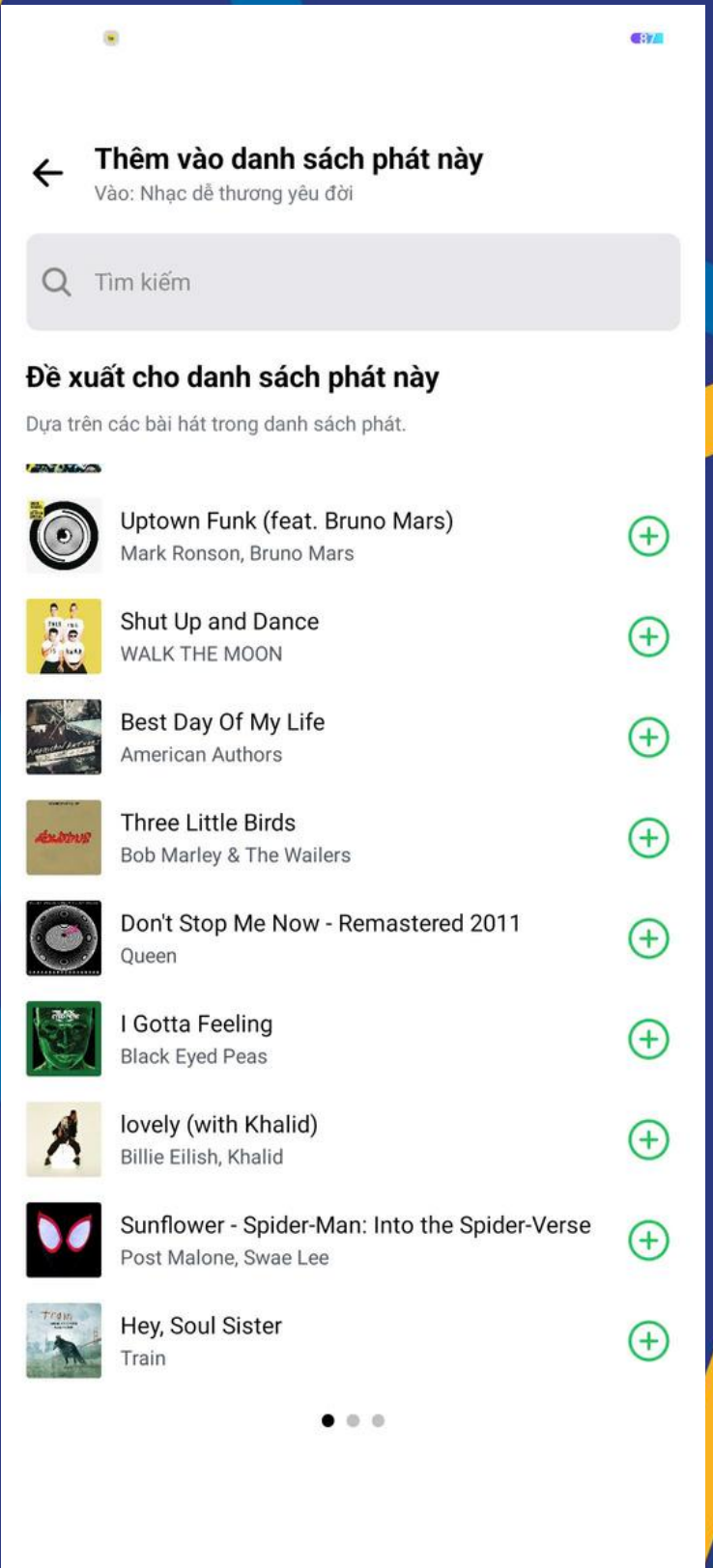
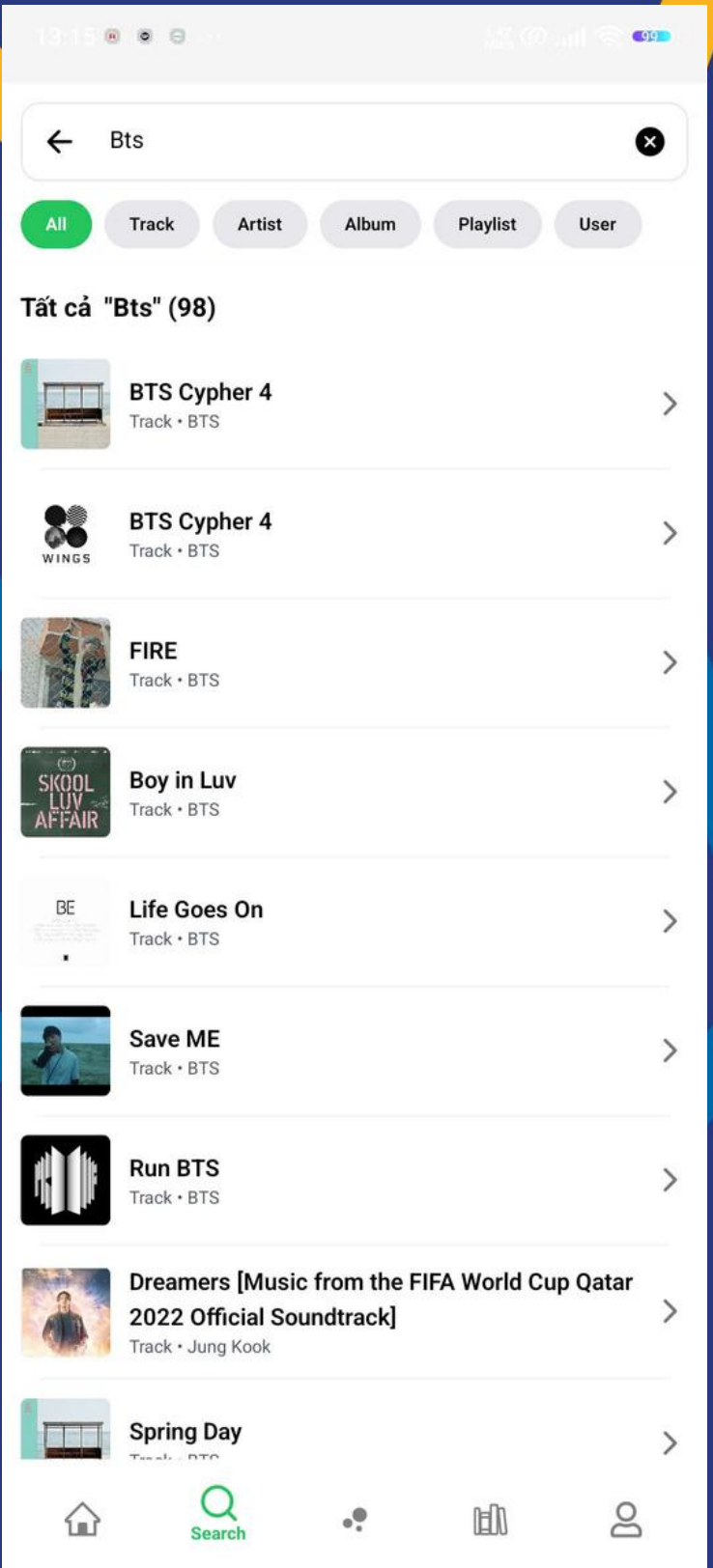
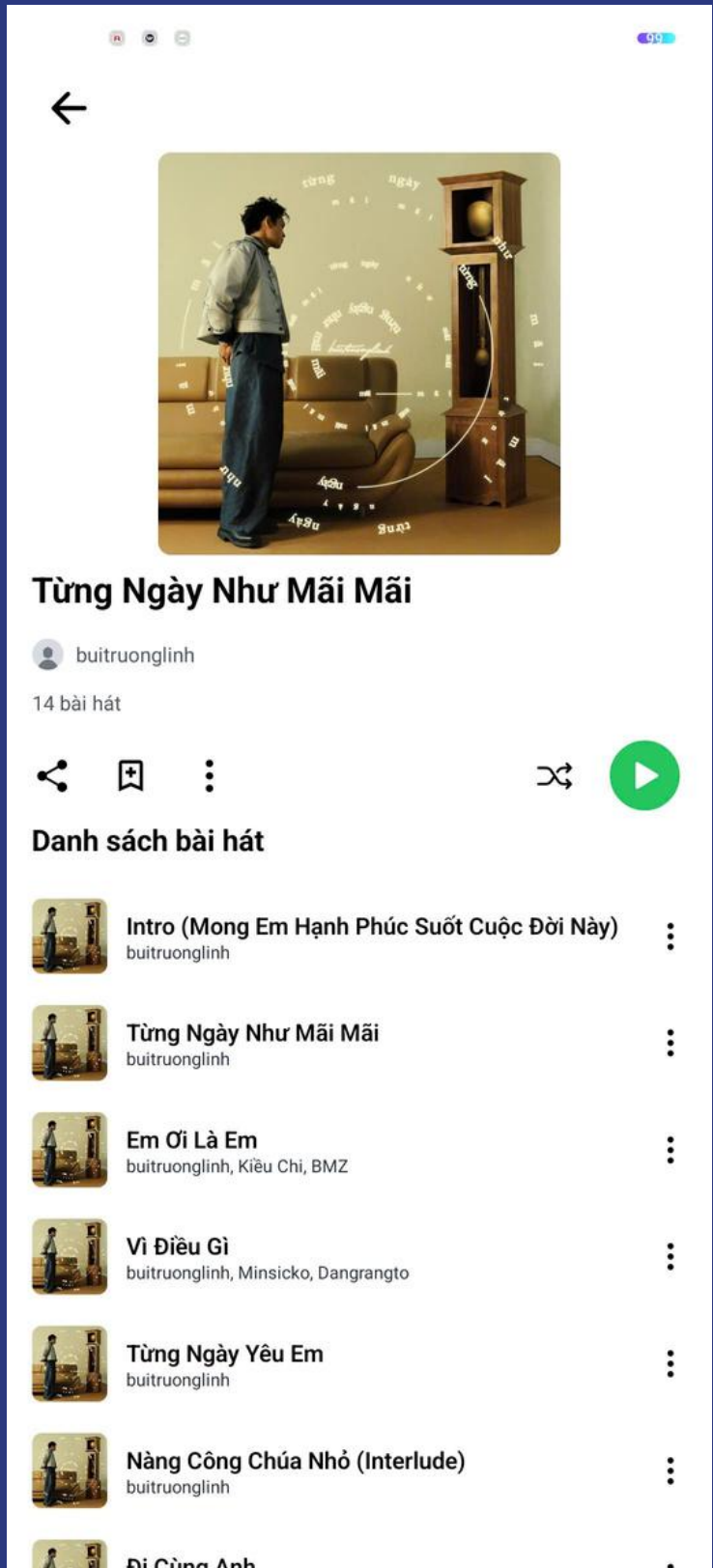
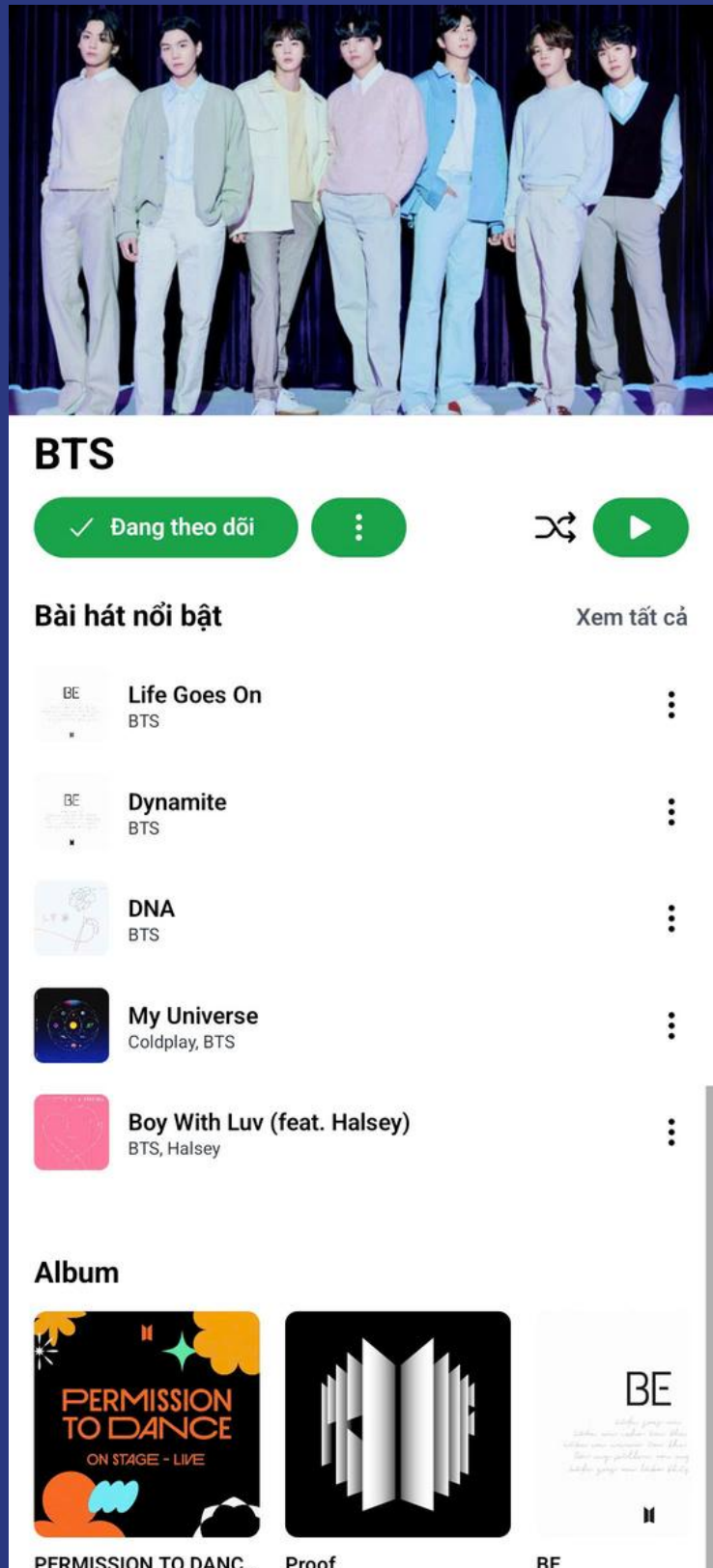
Login/Logout Screen

III. Analysis and design



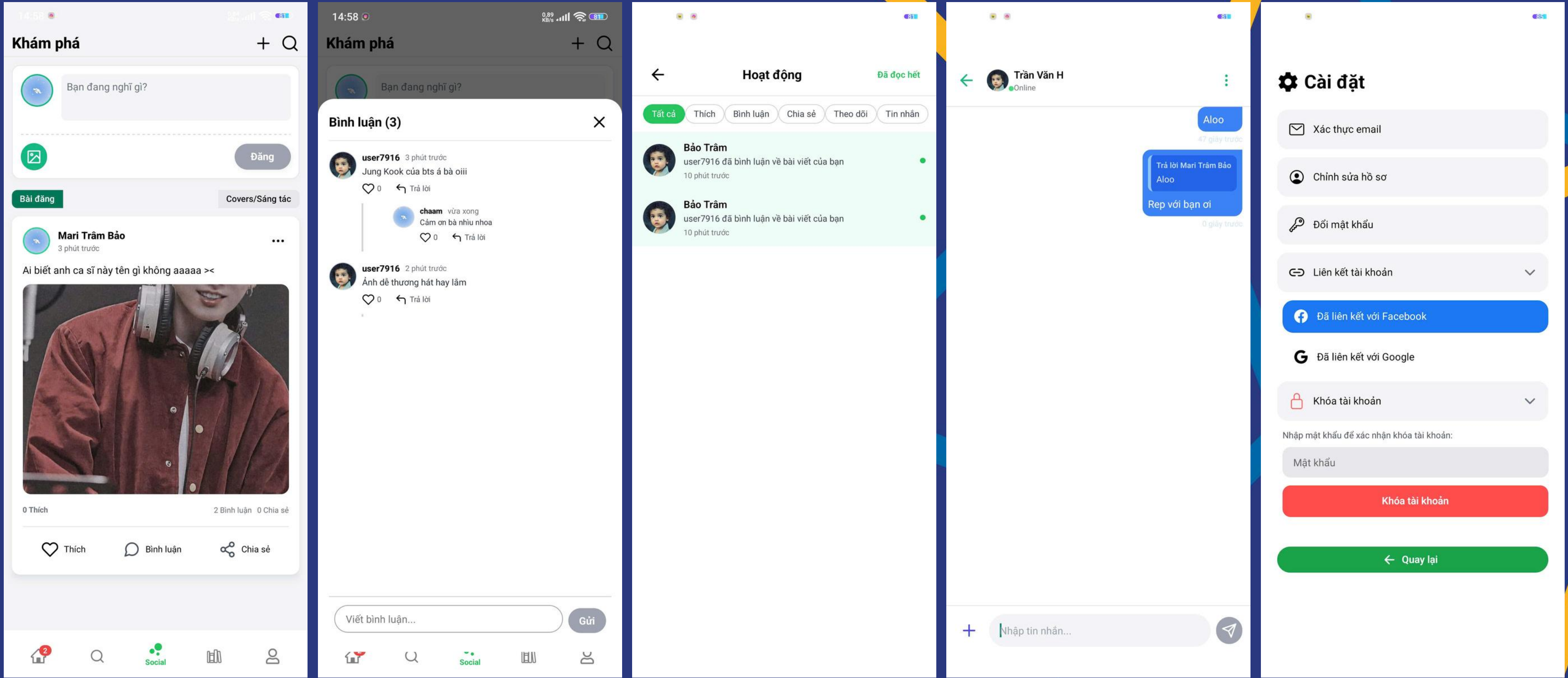
Main screens

III. Analysis and design



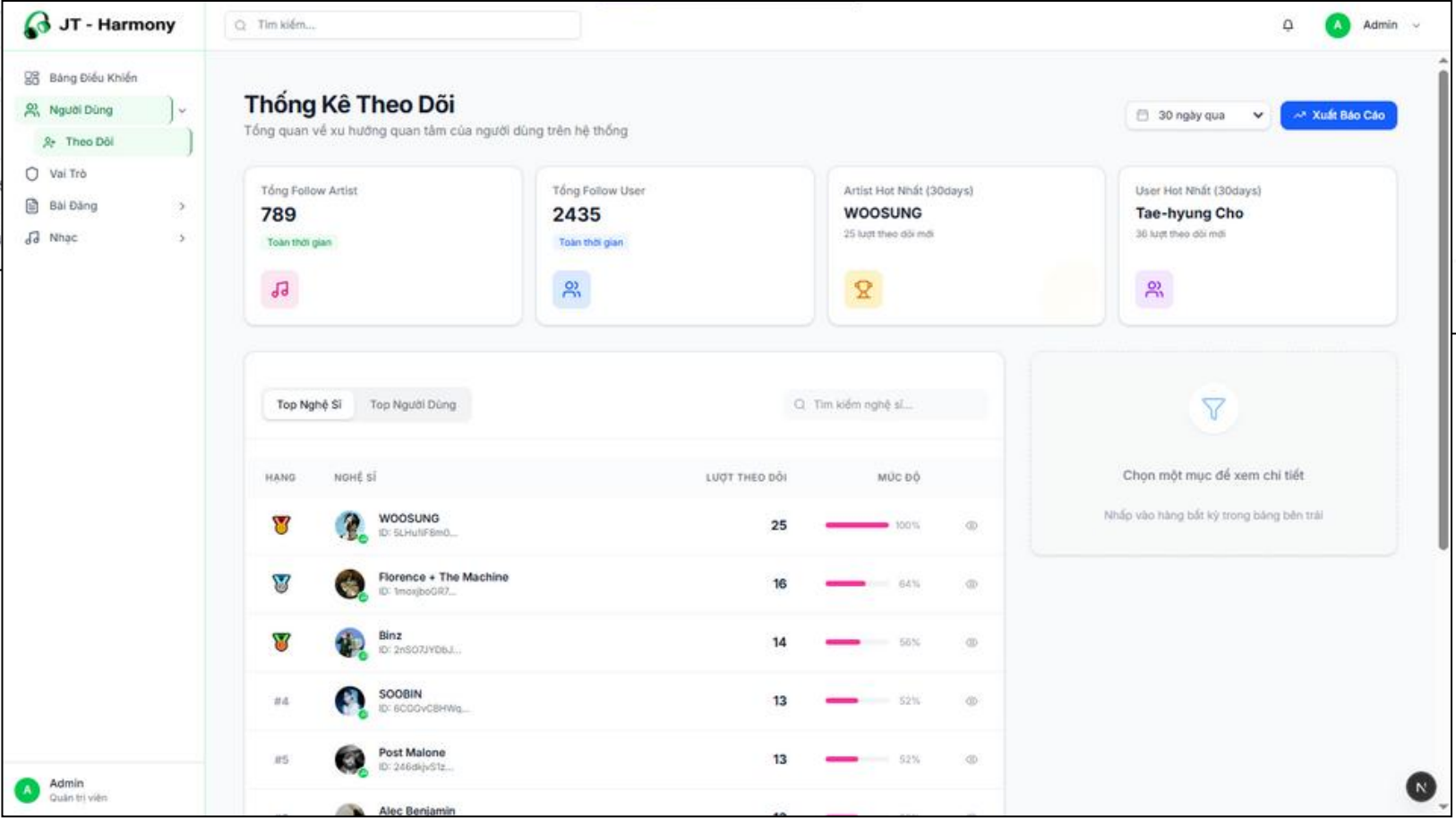
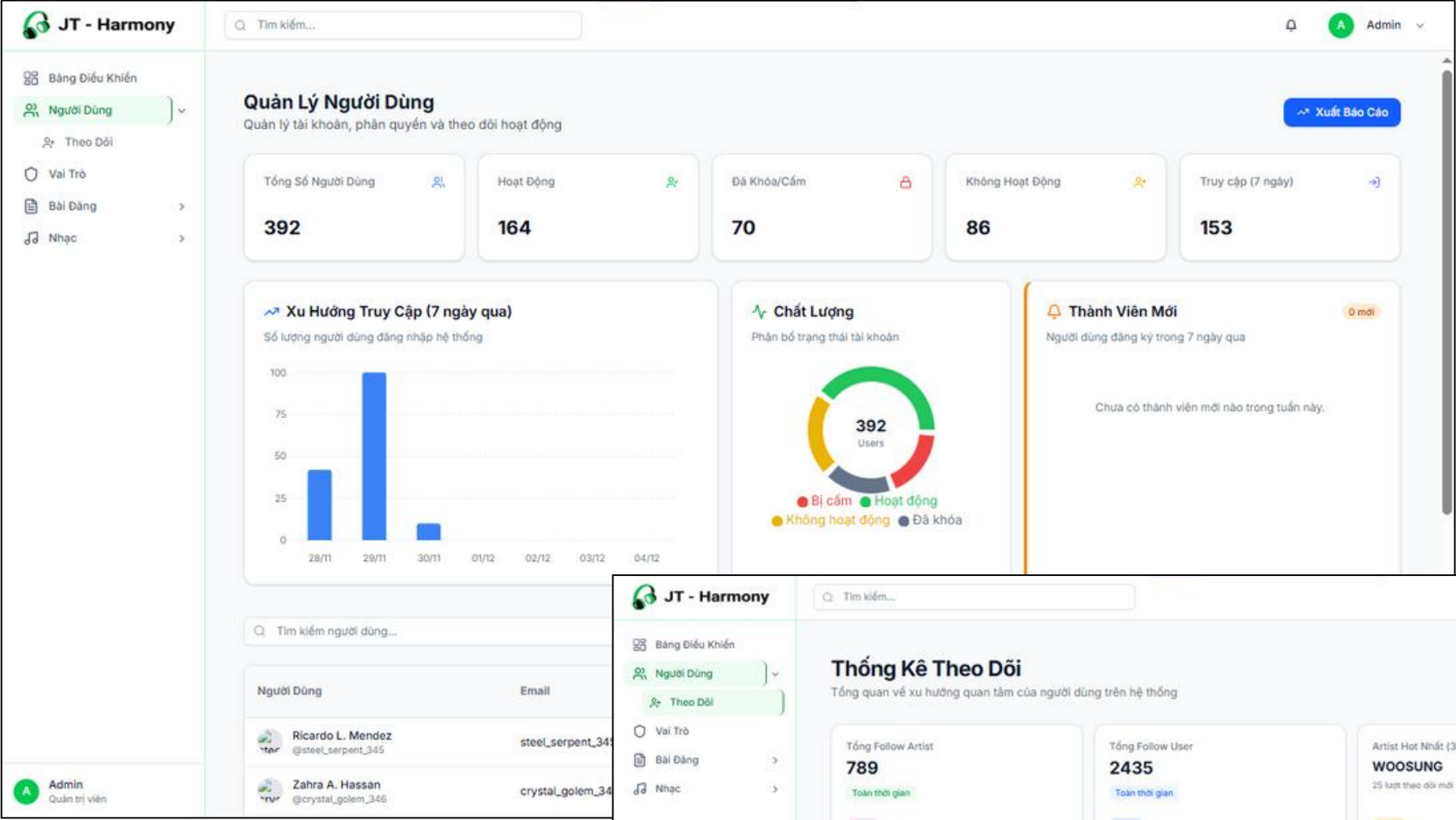
Functional screens

III. Analysis and design

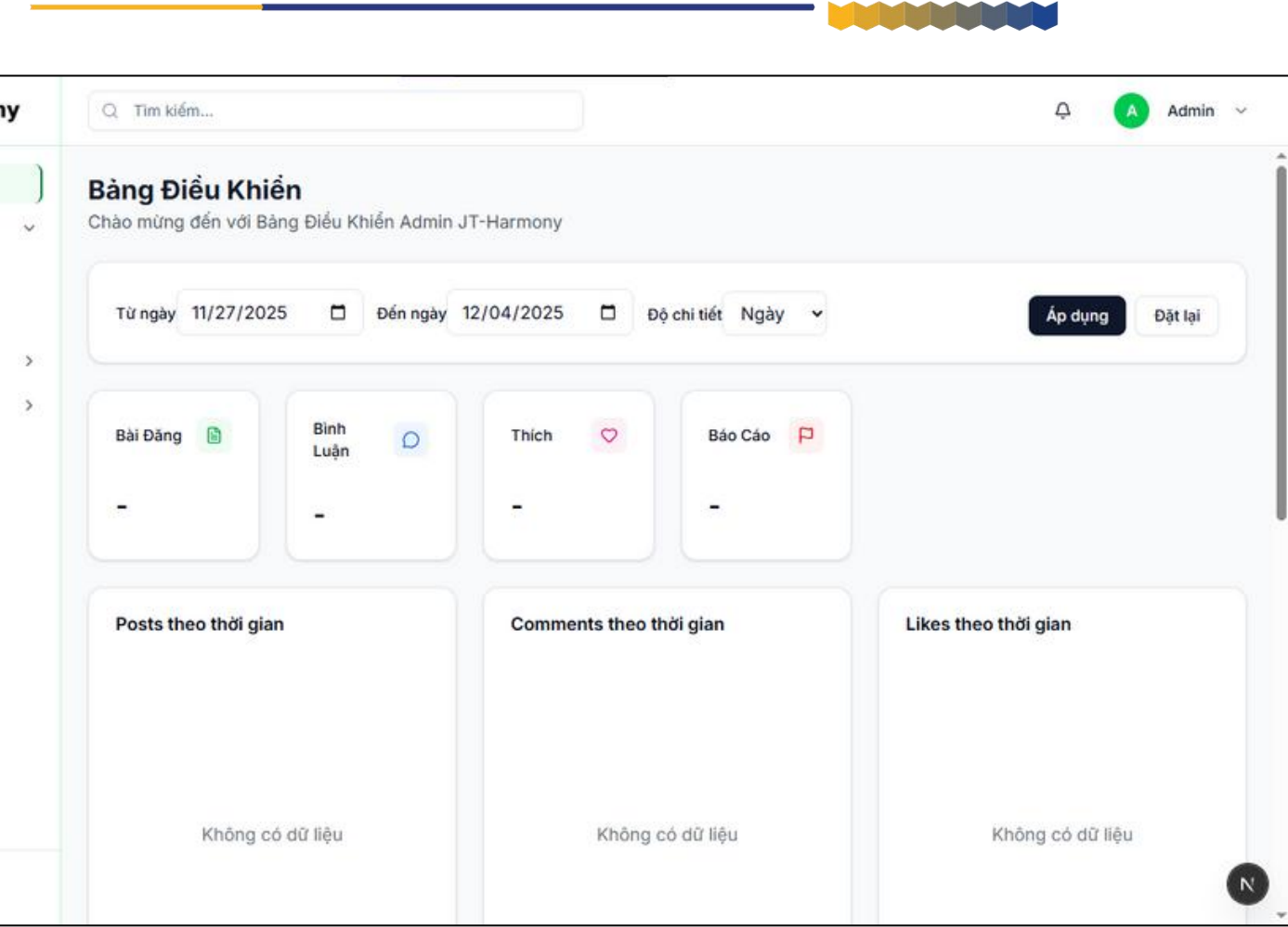


Functional screens

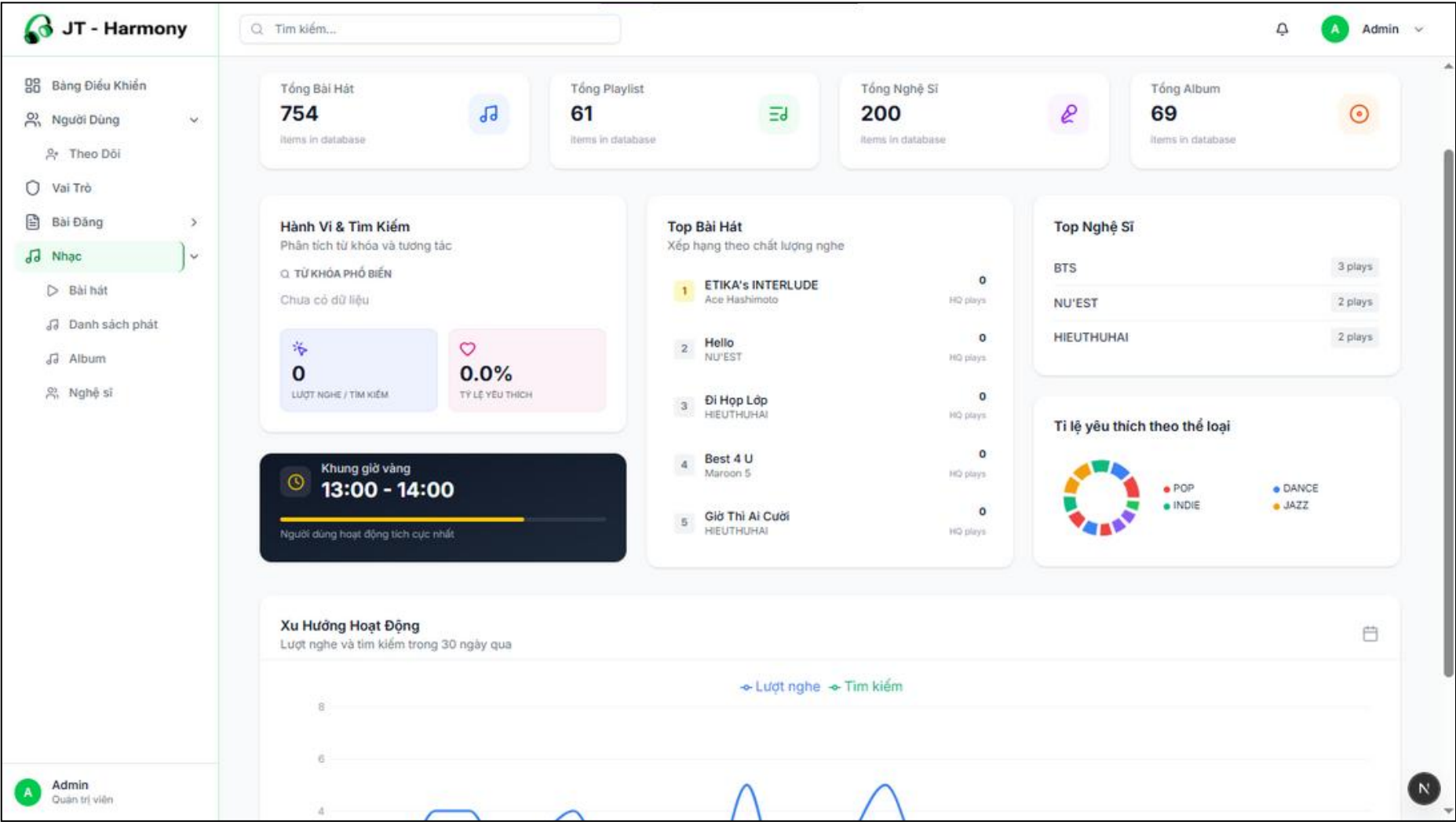
User management page



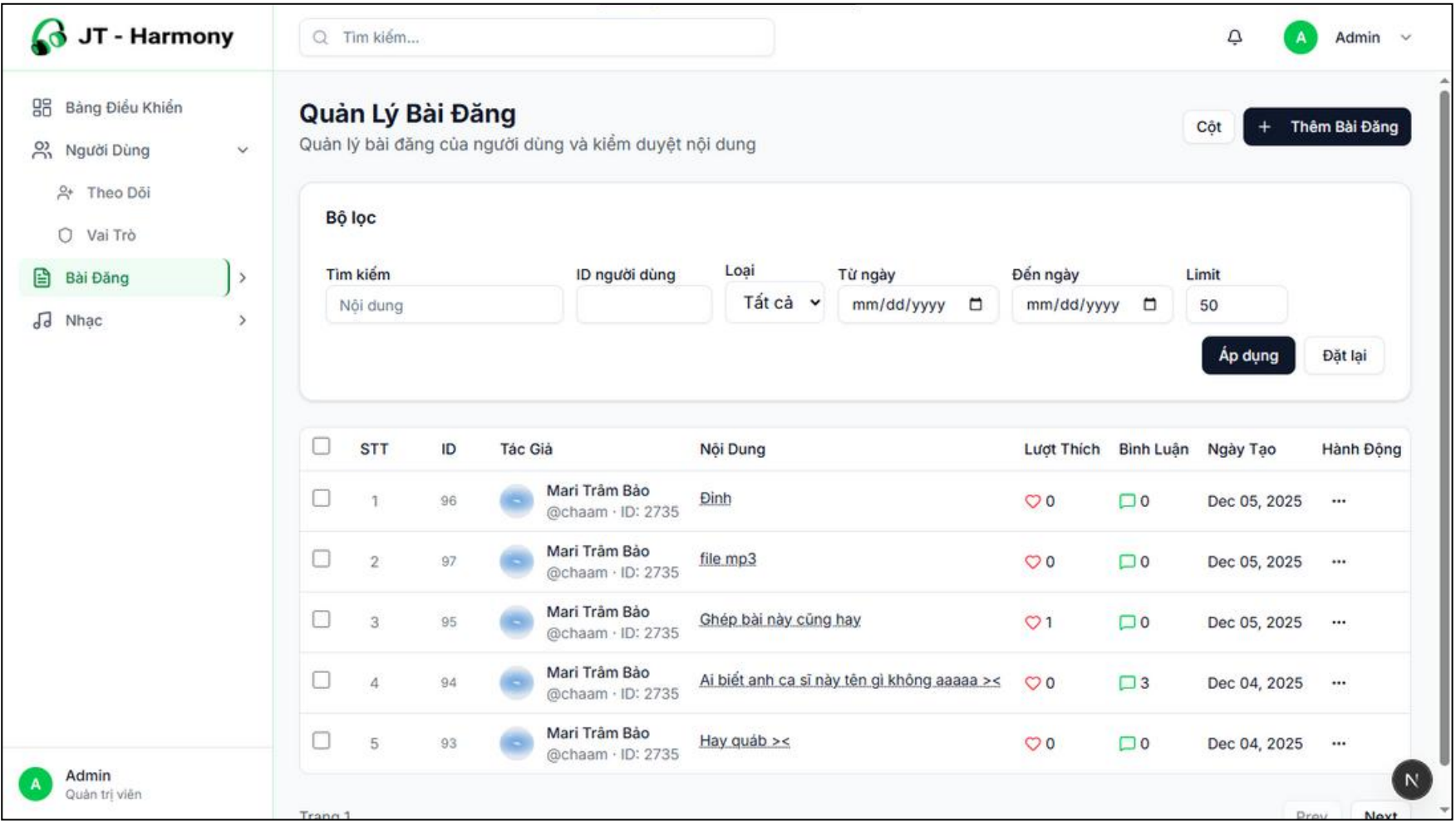
Tracking information management page



Home



Music information statistics viewing page



Detailed post information statistics



Industrial
University of
Ho Chi Minh City

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





Industrial
University of
Ho Chi Minh City

Thanks for watching



JT - Harmony