



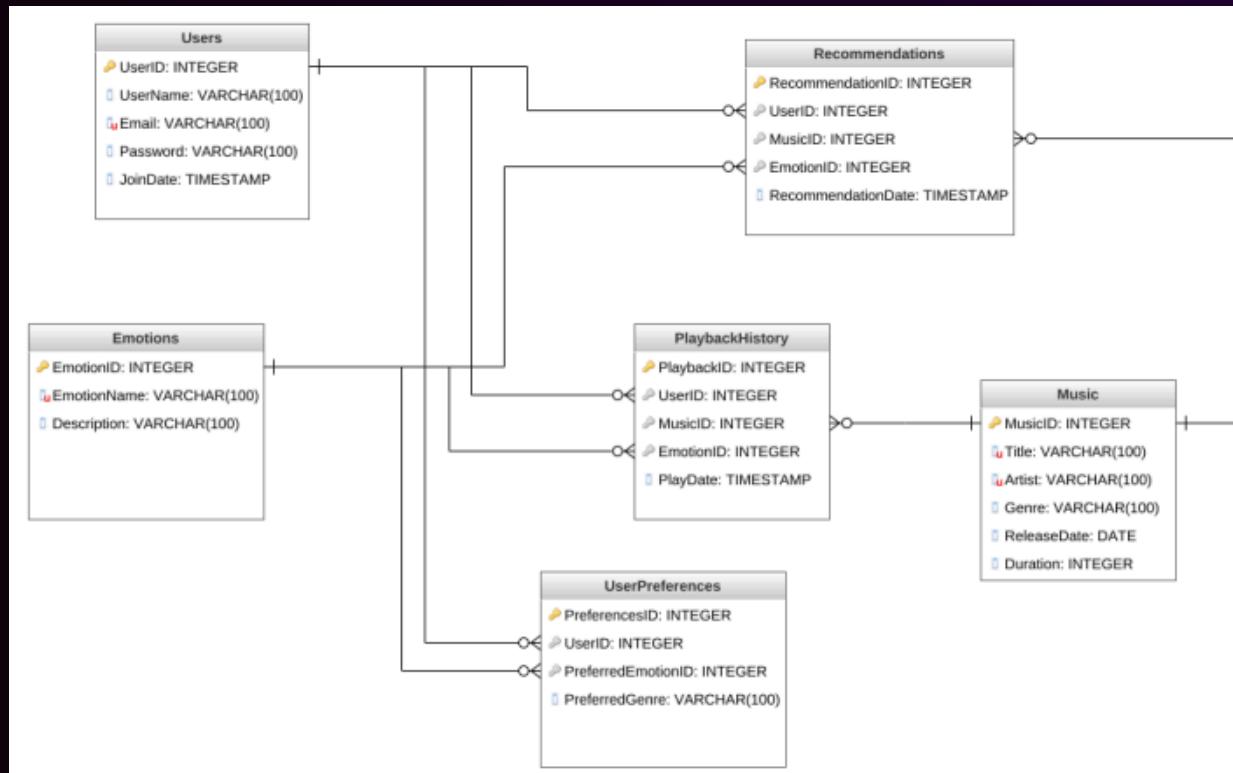
# EmotionTune: A Personalized Music Experience

"A music streaming application that caters to users' emotional needs"

Were Vincent

Date of  
presentation

# DATABASE SCHEMA



**Tables:** Users, Music, Emotions, Recommendations, PlaybackHistory, UserPreferences

**Key Relationships:** Users <-> PlaybackHistory (1:N)

- Users <-> Recommendations (1:N)
- Users <-> UserPreferences (1:1)
- Music <-> PlaybackHistory (1:N)
- Music <-> Recommendations (1:N)
- Emotions <-> Recommendations (1:N)
- Emotions <-> PlaybackHistory (1:N)
- Emotions <-> UserPreferences (1:N)

**Indexes:** Users.Email, Music.Title

**Triggers:** UpdateLastPlayed (on PlaybackHistory) to update Music.LastPlayed





# User Interface

## Login/Registration Screen

- User-friendly input fields for username, email, and password.
- Clear instructions and visual cues.

## Home Screen

- Music library with options to browse by genre, artist, or emotion.
- Search bar for quickly finding songs.
- Prominent "Play Now" or "Explore" buttons.

Emotion Tune

User Name Email

Password

Login Sign up

Forgot Password?

Emotion Tune

Home Recommend Songs

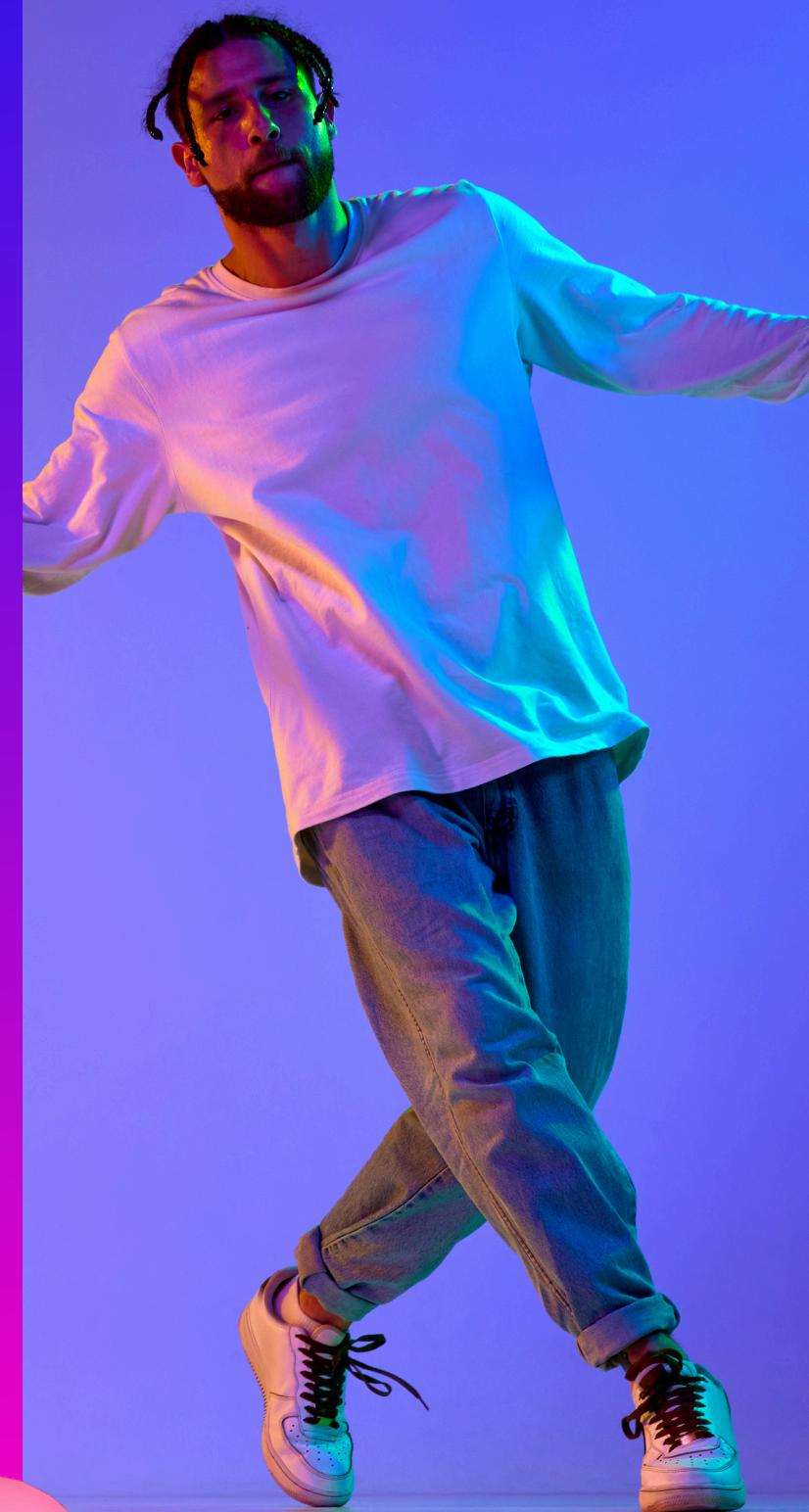
Good Vibrations - The Beach Boys  
Uptown Funk - Mark Ronson ft. Bruno Mars  
Can't Stop the Feeling! - Justin Timberlake  
Happy - Pharrell Williams  
Don't Stop Believin' - Journey

Recently Played

Imagine - John Lennon  
Bohemian Rhapsody - Queen  
Hotel California - Eagles

Emotion Categories

concept: NameGenerator



# User Interface cont'd

## User Preferences Page

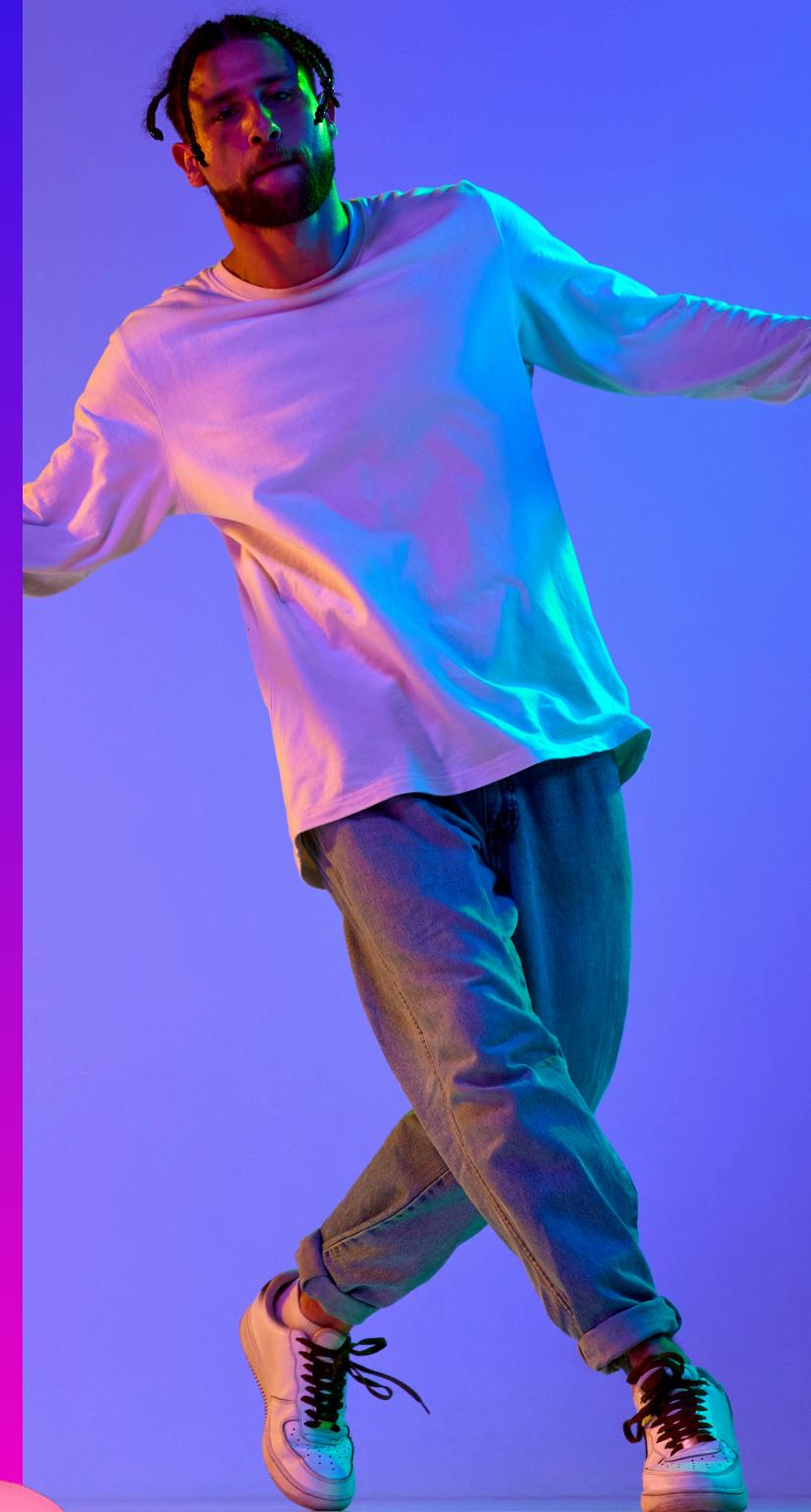
- Radio buttons for rating emotion preferences (1–5).
- Checkboxes or radio buttons for selecting favorite genres.
- "Save Preferences" button.

## Playback History Page

- Table or list view of recently played songs.
- Columns for Song Title, Artist, and Last Played Time.
- Filters (date, genre, emotion).
- "Replay" button for each song.



Songs	Artist	Last Played Time
Shape of You	Ed Sheeran	2024-11-20 15:3
Bohemian Rhapsody	Queen	2024-11-19 1
Blinding Lights	The Weeknd	2024-11-18 22:
Despacito	Luis Fonsi	2024-11-17 18:00



# Core Features

## Key Features

- User registration and authentication
- Personalized music recommendations based on emotions and preferences
- Music playback and control features
- User-friendly interface with intuitive navigation
- Playback history tracking with filtering and sorting options
- Ability to save favorite songs and playlists



# Technical Implementation

**Programming Languages:** Python, Flask

**Database:** SQLite3

- Frontend: HTML, CSS, JavaScript (or a suitable frontend framework)

**Key Libraries/Tools**

- Jupyter Notebook
- SQLAlchemy (for database interactions)
- Pillow (for image handling)
- WTForms: Validate user input for login, signup, and preference settings.

**List of Python packages**

- Jinja2
- Pandas
- Matplotlib
- Flask-Bootstrap
- Pillow
- Scikit-learn

# Team Roles and Responsibilities

Task	Responsible Person	Notes
Database Design	Linxiao Mu	Design schema diagram, create table structures
Implementation of Recommendation Algorithm	Zhuoxin Ge	Develop SQL queries and triggers
Front-end Page Development	Linxiao Mu	Login, emotion recording, recommendation pages
Data Visualization	Zhuoxin Ge	Generate trend charts using Matplotlib/Plotly
Database and Front-end Integration	Both	Complete integration using Flask
Function Testing and Optimization	Both	Validate recommendation accuracy, interface compatibility
Documentation for Database	Linxiao Mu	Table structure explanation, SQL code documentation
Documentation for Front-end and User Manual	Zhuoxin Ge	Interface screenshots, feature descriptions
Project Presentation Slides	Both	Present overall workflow and outcomes

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Q & A?  
Thank  
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