

# **Project - Advanced Web Programming**

## **EFREI 2025 Winter Continuing Education**

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## Introduction

SonicWaves is a comprehensive web platform that empowers users to explore, organize, and interact with music through a sophisticated classification system.

## Core Features

- Music Discovery & Classification

The platform enables users to navigate through extensive music collections using multiple parameters:

- Genre, artist, and album classifications
- Technical attributes (BPM, key signatures)
- Instrumental composition
- Mood and emotional resonance
- (Advanced search functionality with intuitive filtering options)

## Personalized User Experience

Our robust authentication system ensures a secure and personalized environment:

- Email and password-based authentication
- Custom username selection for platform personalization
- Secure token-based session management
- Personalized music preferences and history tracking

## Music Management

→ The integrated To-Do List helps users to organize their musical journey:

- Track music-related activities (song learning, playlist curation, practice sessions)
- Intuitive three-stage workflow: **To Do** → **Doing** → **Done**
- Progress tracking and achievement monitoring
- Seamless integration with user profiles

## Development Roadmap

- Phase 1: Core Infrastructure
  1. Implement secure authentication system with token-based security
  2. Develop robust database architecture for music metadata storage
  3. Create foundational API endpoints for core functionalities
- Phase 2: User Interface Enhancement
  1. Design responsive and intuitive user interface
  2. Implement modern CSS frameworks for consistent styling

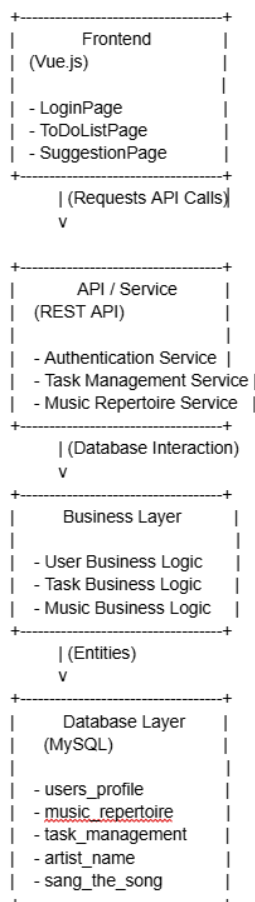
3. Develop interactive features using JavaScript
4. Create seamless user experience across devices

- Phase 3: Advanced Features

1. Implement sophisticated search algorithms
2. Develop advanced filtering capabilities
3. Create personalized recommendation systems
4. Integrate progress tracking and analytics

## **MILESTONE 1:**

### **- Structure Diagram:**



#### **Frontend (Vue.js)**

- LoginPage: The login page that allows the user to authenticate.
- ToDoList: Page displaying all the user's tasks with their statuses (To Do, Doing, Done).
- SuggestionPage: Page displaying music suggestions.

#### **API / Service Layer:**

- Authentication Service: Service that handles user authentication and token generation.
- Task Management Service: Service to retrieve and modify tasks.
- Music Repertoire Service: Service to manage music information.

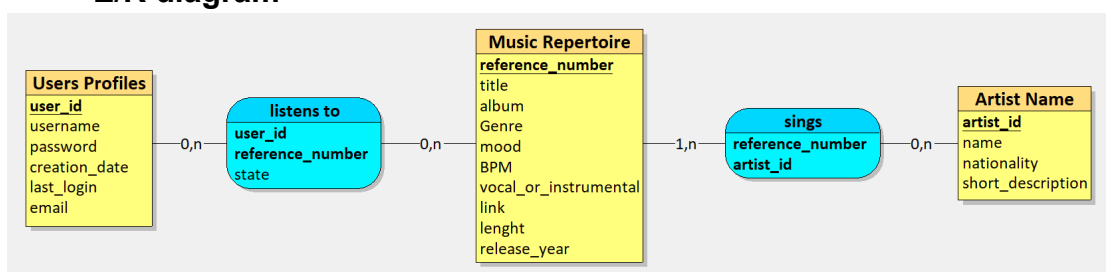
#### **Business Layer:**

- User Business Logic: Manages business logic related to users (creation, session management, etc.).
- Task Business Logic: Business logic for task management (creation, status updates, etc.).
- Music Business Logic: Business logic related to songs and artists (optional).

#### **Database Layer (MySQL):**

- users\_profile: Table to store user information.
- music\_repertoire: Table for music information.
- task\_management: Table for task management with status
- artist\_name: Table for artists.
- sang\_the\_song: Table linking artists to song

### **- E/R diagram**



- Wireframes:  Figma

## Home page



[Suggestions](#)

[To-Do List](#)

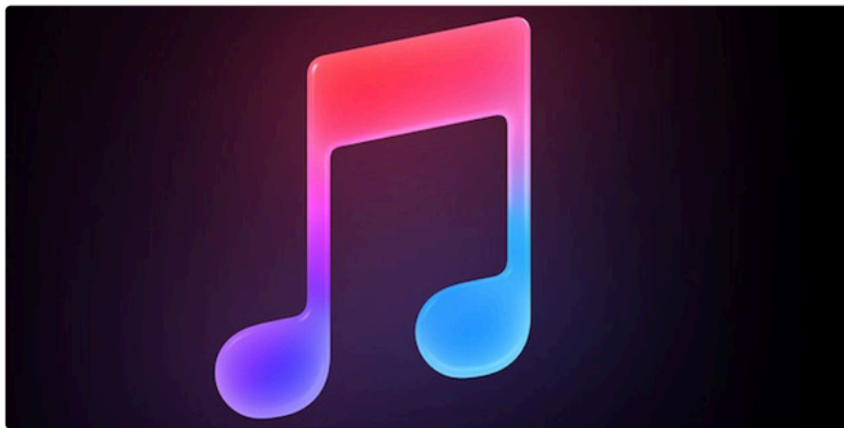
[Login](#)

# Sonic Waves

## Your Music, Perfectly Organized

Record, track, and plan your music listening with ease.

[Get started !](#)

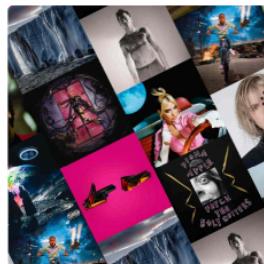


## About Sonic Waves

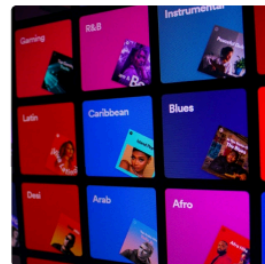
Sonic Waves allows you to keep track of the songs and albums you've listened to, follow your current plays, and create a list of tracks to discover.



Songs



Albums





Music genres



"Sonic Waves – Organize Your Music, Amplify Your Vibes!"

Suggestions page



Home PageTo-Do List

# Suggestions

Looking for new music? Explore a curated selection of tracks tailored to your taste and discover your next favorite song!

Add Filters

Search

pop rock metal classic phunk

Genre

Mood

☒ Sad

☐ Exuberant

☐ Upbeat

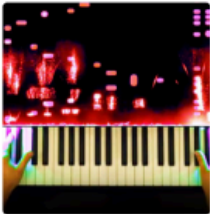
☒ Energetic

☐ Romantic

☐ Dark


BPM

Popularity




Dance with Chaos  
Lionel Yu Piano

Download




Blind  
Korn

Download




Trigger  
Smash Into Pieces

Download



Sea of Problems 2  
Glichery


Download



Phonky Town  
PlayaPhonk


Download

Listen again




Fire Ignites  
Atrocity

Download



Rock and Stone  
Windrose

Download



Bonebreaker  
Slaughter to Prevail

Download

"Sonic Waves – We don't sell microwaves"

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## To-Do List page:



[Home](#) [Page](#)









[Suggestions](#)



## Your To-Do List

Organize your favorite songs based on your current tastes.

Add Filters

	Xanadu - Ummet Ozcan	To listen ▾
	Trigger - Smash Into Pieces	Listening ▾
	Rock and Stone - Windrose	Listening ▾
	Bonebreaker - Slaughter to Prevail	Listening ▾ To listen Listened
	Sea of Problems 2 - Glichery	Listening ▾
	Macarena - Los Del Rio	Listened ▾
	Svarand - Heilung	Listened ▾
	Radioactive - Imagine Dragons	To listen ▾



"Sonic Waves – Organize Your Music, Amplify Your Vibes!"