

SpotiPod Project Presentation

Step 1: Understanding Why - The Problem Domain

- Many music lovers still use legacy devices like iPods for a distraction-free experience.
- Modern streaming services (e.g., Spotify) do not natively support syncing playlists to these devices.
- Users face a gap: no easy way to transfer Spotify playlists to iPods or similar hardware.

Problems Identified

- 1. No simple way to convert Spotify playlists for iPod use**
- 2. Manual conversion is tedious and error-prone**
- 3. Metadata and organization are often lost in the process**

Step 2: From Problems to Features

- **Problem 1 → Feature 1:** Convert Spotify links to downloadable audio files
- **Problem 2 → Feature 2:** Preserve metadata (title, artist, album, art)
- **Problem 3 → Feature 3:** Organize files for easy syncing to devices

Features Overview

- Input Spotify track or playlist URL
- Retrieve and convert tracks to iPod-compatible formats (MP3, AAC)
- Store files locally, organized by playlist or artist
- Show progress and handle errors gracefully

Requirements Breakdown

- **Functional:**
 - Accept Spotify URLs
 - Retrieve metadata via Spotify API
 - Convert and store audio files
 - Handle invalid links robustly
- **Non-Functional:**
 - Efficient conversion
 - Simple, intuitive UI
 - Error logging for debugging

Example User Stories

- As a user, I want to input a Spotify playlist URL so I can transfer my music to my iPod.
- As a user, I want the app to preserve song details and album art.
- As a user, I want to see conversion progress and be notified of any issues.

Implementation Plan

- **Sprint 1:**
 - Spotify API integration
 - Basic audio conversion
 - Simple UI for input and progress
- **Sprint 2:**
 - Metadata preservation
 - File organization improvements
 - Enhanced error handling and logging

Testing Approach

- Unit tests for API handling, URL validation, and file naming
- Integration tests for end-to-end conversion
- Edge case tests (invalid links, empty playlists)
- Manual testing for UI and device syncing

Timeline

- **Weeks 1-2:** Core backend and Spotify integration
- **Weeks 3-4:** Audio conversion and UI prototype
- **Weeks 5-6:** Metadata, organization, and robust error handling
- **Weeks 7-8:** Testing, documentation, and final polish

Summary

- SpotiPod bridges the gap between modern streaming and classic music devices
- Focused on usability, reliability, and preserving the music experience
- Open for feedback and future enhancements

Thank you!

Questions?