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Musicfy System Requirements Document

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INTRODUCTION

The purpose of this System Requirements Document is to clearly define the specifications and expectations for the development of Musicfy, a social music-sharing application. Musicfy allows users to share, discover, and interact with music content from platforms such as Spotify, Apple Music, and YouTube. This document outlines both functional and nonfunctional requirements to ensure consistent understanding among developers, designers, and stakeholders. It includes a description model that details system behavior in terms of output, input, processes, performance, and security. Additionally, the document provides a class diagram representing the system's structure, a use case diagram illustrating user interactions, detailed use case scenarios that describe each system use in step-by-step form, including exceptions, and system sequence charts that show the flow of events during user interactions. Together, these elements serve as a roadmap for building a reliable, user-centered application.

DESCRIPTION MODEL

The Musicfy system is designed to allow users to interact with music content in a social and engaging way by posting, discovering, and discussing songs and playlists from major platforms like Spotify, Apple Music, and YouTube. The system’s output includes dynamic user-generated posts, interactive feeds displaying recent activity, notifications (optional/future), and search results that show relevant users, songs, or playlists. Input includes user-submitted links to music, text-based captions or comments, profile information, and interactions such as likes, dislikes, or shares. Core processes involve handling user authentication, retrieving and displaying external music content, managing user-generated posts and comments, tracking user interactions, and integrating with third-party APIs for seamless linking of media. Performance requirements include fast load times for the music feed, real-time updates for likes and comments, and responsive search functionality. Security measures will ensure that only authorized users can access or modify their profiles and posts, and that user data is protected through standard encryption and authentication protocols. All functions are

designed to create an intuitive and secure experience that encourages music discovery and social engagement.

CLASS DIAGRAM

Create a class diagram. The Class Diagram should contain all of the system objects, their attributes, and any known methods. This diagram may be included as a separate file – it does not need to be inserted into this Word document.

USE CASE DIAGRAM

Create a Use Case Diagram for all of the "uses" of your system. This diagram may be included as a separate file – it does not need to be inserted into this Word document.

USE CASE SCENARIOS

Create a full description Use Case Scenario (detailed descriptions) for each use case of the system. This full scenario should include an enumerated list of steps involved in the activity as well as any exception conditions.

SYSTEM SEQUENCE CHARTS

For each Use Case Scenario, provide a sequence diagram. Use your class diagram, use case diagram and scenarios to create the corresponding System Sequence Diagram.