Emotional Methods For Music Recommendation

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Abstract

In the era of expansive music streaming services, where platforms host millions of tracks, recommendation systems are pivotal in guiding user listening. Even with the complex features and algorithms we have today, the streaming platforms' recommendation systems can still overlook the real-time influence of emotions on which listeners might base their music choices. To address this issue, the researcher will investigate whether implementing emotional context can address this gap within music recommendation algorithms, focusing on users' self-reports and feedback on function experiences, potentially improving users' satisfaction and engagement.

The study combines a literature review of emotion-aware and context-based recommendation systems with a behavioral investigation involving surveys and in-depth interviews with university students. The study shows that users' emotional states and personal histories add significant weight to how they perceive new music and preferences based on essential psychological elements such as nostalgia, emotional stability, and social situations. Furthermore, the thesis will also explore the effects of emotional resonance and context-specific features on music-listening activities.

The research will explore the benefits of analyzing music promotional strategies with emotional labels. As an independent artist, the researcher will analyze streaming data from his music promotion campaigns on the music streaming platform Netease, exploring the correlation between listeners' music reception and music's emotional expressions. The investigation will reveal a consistent streaming behavior pattern from users reacting to positive and negative emotions expressed within the music.

Based on the studies, observations, and conclusions from survey data and interview interpretations, this research proposes a potential feature regarding users' emotional experiences, including emotional consistency scales, familiarity modes, and friends-based trending music curation. Through deconstructions of emotional and contextual influences, this research refines the complexities of

current issues that recommendation systems encounter, giving better attention to serving the needs of general users on streaming platforms.

Introduction

1.1 Background

Currently, music streaming services, platforms like Spotify, Tidal, YouTube Music, and Apple Music, offer users access to over a hundred million songs, and they rely on statistical algorithms to recommend music. Recommendation systems like Apple Music's custom radio station and Spotify's music discovery generate suggestions based on several methods: i). on user behavior listening patterns during the time of day based on past listening histories. ii.) music metadata, manua labels that indicate basic information like the artist's name, year released, genre, and possibly mood. iii). environment context (time of day, holiday occasions, seasonal changes), and iv). content-based analysis, a known example being Spotify's API for feature detection. So far, automatic recommendation features do not include emotionally related context for individual users. Many editor curations and user-created playlists include descriptive words, indicating a suitable emotional state.

1.2 Problem Statement

Human emotions are crucial to music appreciation, and current music recommendation systems based on algorithmic predictions lack this aspect.

This thesis posits that integrating user-reported emotional feedback into recommendation algorithms could revolutionize user interaction with music streaming services. The improved algorithm would significantly improve if these streaming platforms delivered how people wanted to feel.