AI Project Proposal

AI section A

Group Members:

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Project Title:

MusicWave: A Personalized Music Platform (Web App) with Recommender System

Objective:

The main goal of this project is to develop a web application that offers a personalized music streaming experience similar to Spotify. The platform will recommend songs based on various music attributes such as genre, artist, region, and instruments. It will also feature an "Explore" page inspired by Instagram, showcasing trending and recommended music tailored to each user.

Problem Statement:

With the growing number of music streaming services, users often face difficulties in discovering new music that aligns with their preferences. Existing platforms sometimes fall short of delivering personalized music recommendations that account for a wide range of attributes such as region, instruments, and producer involvement. There is a need for a solution that enhances user interaction with a platform by offering highly personalized experiences and a dynamic explore page for new music discovery.

Proposed Solution:

Our project, MusicWave, will address this problem by developing a highly personalized music recommendation system. Using a dataset from Kaggle, we will leverage attributes such as song name, language, region, artist, producer, instruments, genre, and length to provide relevant song suggestions. Additionally, the application will feature a personalized explore page, showcasing trending and recommended tracks based on user activity and interaction history.

MusicWave will offer:

1. **User Profiles**: Each user can create and manage profiles, storing their music preferences and history.
2. **Music Recommendations**: The platform will suggest songs based on user interactions, using machine learning techniques.
3. **Explore Page**: A visually engaging explore page inspired by Instagram will present music recommendations based on trends, user preferences, and new releases.
4. **Digital Signature**: A personalized digital signature will accompany each user's experience, enhancing the tailored nature of recommendations and the overall music exploration process.

Scope:

Features:

- User authentication, profile creation, and management.
- Music recommendation system based on various attributes such as genre, artist, and region.
- Instagram-like explore page for discovering new and trending music.
- Personalized user experiences based on interaction history, preferences, and behavior.

Limitations:

- Initially, data will be hardcoded from a CSV file and not integrated with a live music database.
- The project will not support real-time music streaming services.
- Advanced features like collaborative filtering using real user interactions may not be fully explored due to time constraints.

Innovation:

Our project stands out from other music recommendation systems due to its comprehensive use of music attributes. By considering a wide range of characteristics such as instruments, regions, and producers, MusicWave offers a more nuanced and in-depth recommendation system. Additionally, the integration of an Instagram-inspired explore page introduces an innovative user interface design for music discovery, which is typically missing in many existing platforms. This ensures an engaging and unique user experience, with the added personal touch of a digital signature that tracks preferences and user history to refine recommendations over time.

Postscript:

This proposal outlines the initial scope and vision for MusicWave, a dynamic music recommendation platform that provides personalized experiences and music discovery features. We aim to create a robust foundation for future scalability and improvements, including real-time data integration and more sophisticated recommendation models.