CS 6400 Project Proposal Revised(Individual)

Yuan Ma

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1 Goal

In this individual project, I plan to design a web based music application which can be used to manage a musical library. A user can search for songs based on the information of name, artist or album. And this whole process is controlled by the system administrator.

2 Database Design

The basic schema for the database is as follows: it contains four tables, including Artist, Albums, Tracks, Genres, Playlist, Playlist_track and User. And the details are as follows:

- The Artist table has the relation:

  Artist(id, name, desciption, years_active)

  The primary key is id.

- The Album table has the relation:

  Album(id, artist_id, name, release_date, genre_id, picture, description)

  The primary key is id. And artist_id is a foreign key to Artist table, genre_id is a foreign key to Genres table.

- The Track table has the relation:

  Track(id, album_id, name, artist_id, play_time, lyric, filename)

  The primary key is id. And album_id is a foreign key to Album table, and artist_id is a foreign key to Artist table.

- The Genres table has the relation:

  Genres(id, name, description)

  The primary key is id.

- The Playlist table has the relation:

  Playlist(id, user_id, name)

  The primary key is id.

- The Playlist_track table has the relation:

  Playlist_track(id, playlist_id, track_id)

  The primary key is id. And playlist_id is a foreign key to Playlist table, and track_id is a foreign key to Track table.

- The User table has the relation:

  User(id, username, passwordis_Admin)

  The primary key is id.

3 Entity-Relationship Diagram

4 Implementation

The online music library will be implemented using MySQL as the database. And Apache will be web server to provide basic functionality of the web services. PHP will be used as scipting language to program the server side that manipulates the data in the database.

5 Functionality

- General Functionality

  - New user registration
    A new user need to register before using the service. The registration can be done either by creating a new account or linking to facebook/twitter account.

  - Logging in
    A user can log into application by a correct combination of Username and Password or facebook/twitter authentication service.

- User Functionality

  - Query album infromation
    A user can query very information he hopes to know about an album, including artist, track, genre.

  - Create music lists
    A user can create music lists and share it with other users or friends on Facebook/Twitter.

- Administrator Functionality
  - Maintain Service