




Large-Scale and Multi-Structured Databases

Project Design

BeatBuddy

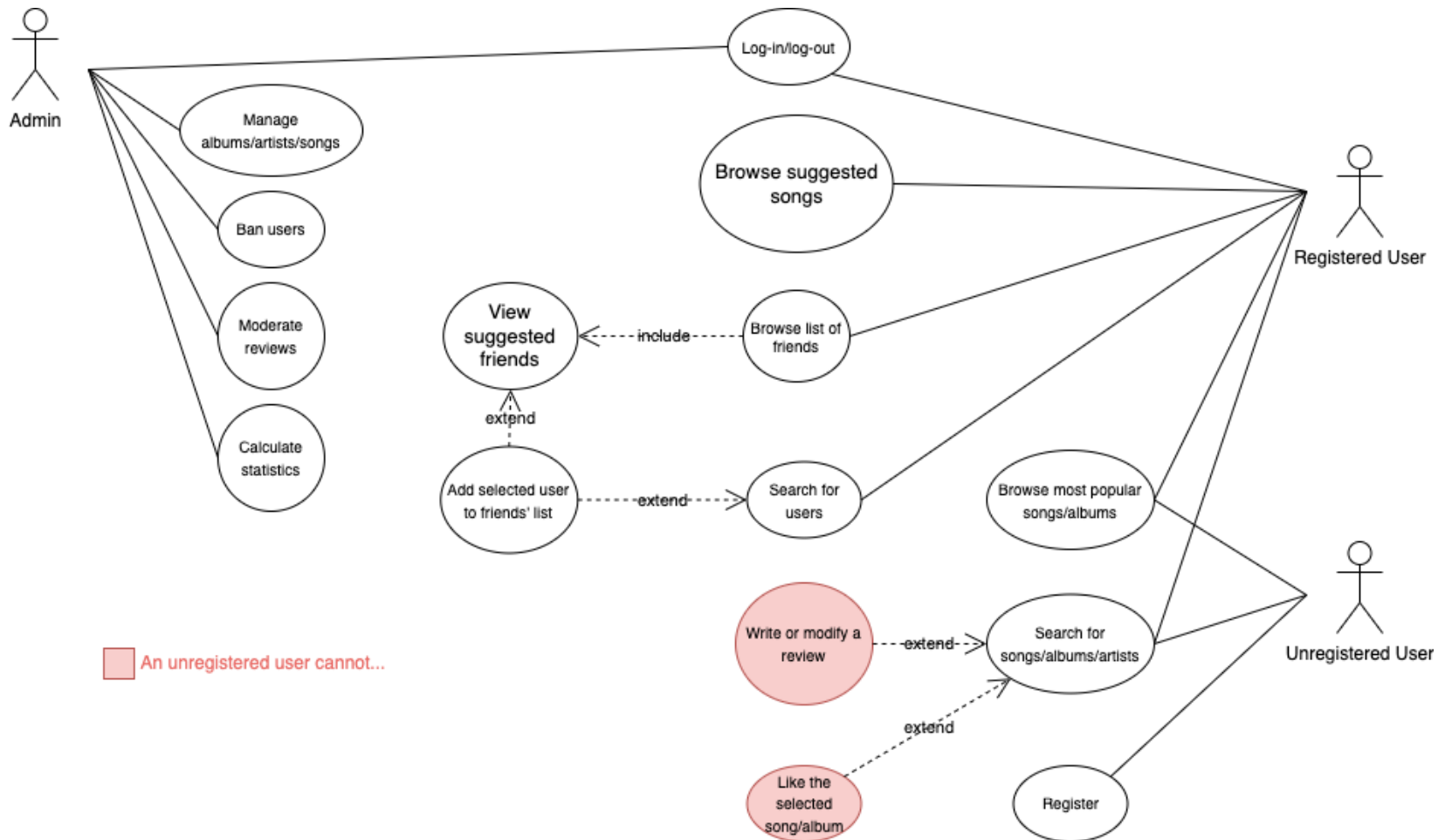
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Application Highlights

BeatBuddy: *Your Rhythmic Playground!*  Discover musical vibes with friends, share your album crushes, and let the beats of others lead you to uncharted sonic adventures!  

- ♪ Uncover what others think about your favourite albums!
- ♪ Surf through the charts of the hottest albums and songs right now.
 - ♪ Let your friends' music tastes guide you to new tunes.
 - ♪ Share your thoughts on the latest talked-about album.
- ♪ Dive into any album you want, exploring their stats and jotting down the next songs you want to hear.

Actors and main supported functionalities



Dataset Description

Source: Discogs, Spotify, Metacritic



Description:

- *Discogs is a music database and marketplace; allows developers to retrieve artists, albums, songs and reviews through their API.*
- *Spotify's API enables developers to access music data for seamless integration into various applications.*
- *Metacritic is a review-aggregator for various media, including music albums.*

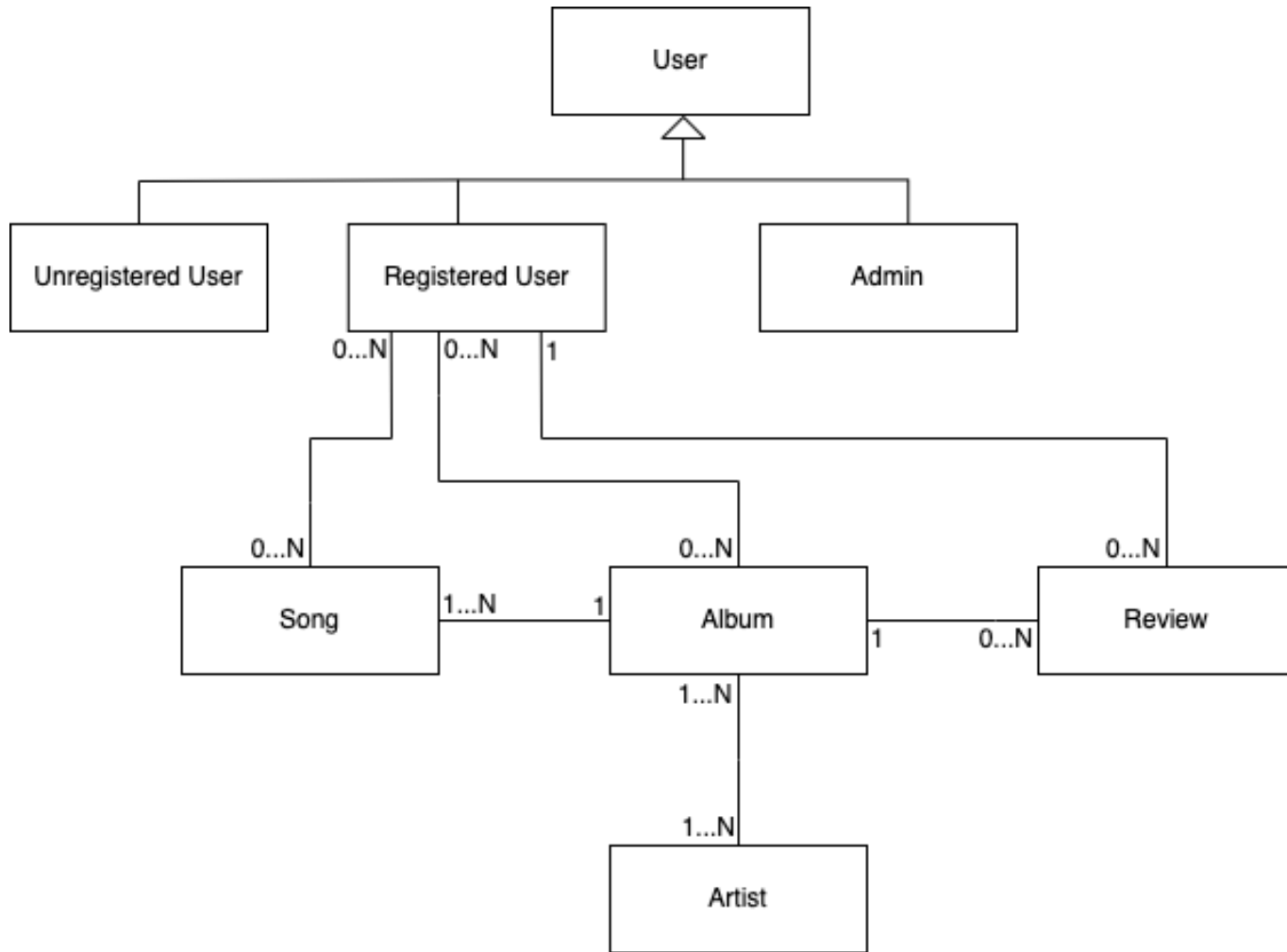
Volume:

- *10k artists, up to 100k albums, about 1M songs (~170MB).*
- *About 50k reviews (~75MB)*

Variety: *reviews were retrieve using two different sources.*

Velocity/Variability: *most popular songs may vary every week, when new releases were added in the database*

Preliminary UML Class Diagram



Requirements and Entities handled by Document DB

Our document database will manage information and statistics related to users registered in our system, details about artists, their albums, and the associated songs and reviews submitted by users.

Requirements:

- *Discover the top-rated albums based on the average ratings from reviews.*
- *Determine the artist with the highest average album rating.*
- *Access album statistics (average rating, number of reviews and total like count).*
- *Explore song statistics (number of likes).*
- *Identify the most liked albums and songs in both recent times and across all time periods.*
- *Find albums with the best average rating, filtered by year.*

Requirements and Entities handled by Graph DB

Our graph database will manage friendship among registered users in our system and provide song recommendations based on the liked songs of other users.

Requirements:

- *Recommend a song that is liked by a user friends.*
- *Suggest a song that aligns with the musical preferences of users who share common tastes with a particular user.*
- *Offer friend suggestions based on common connections of a user.*

Software Architecture Preliminary Idea

DBMS:



Web server:



Programming languages:



IDE:

