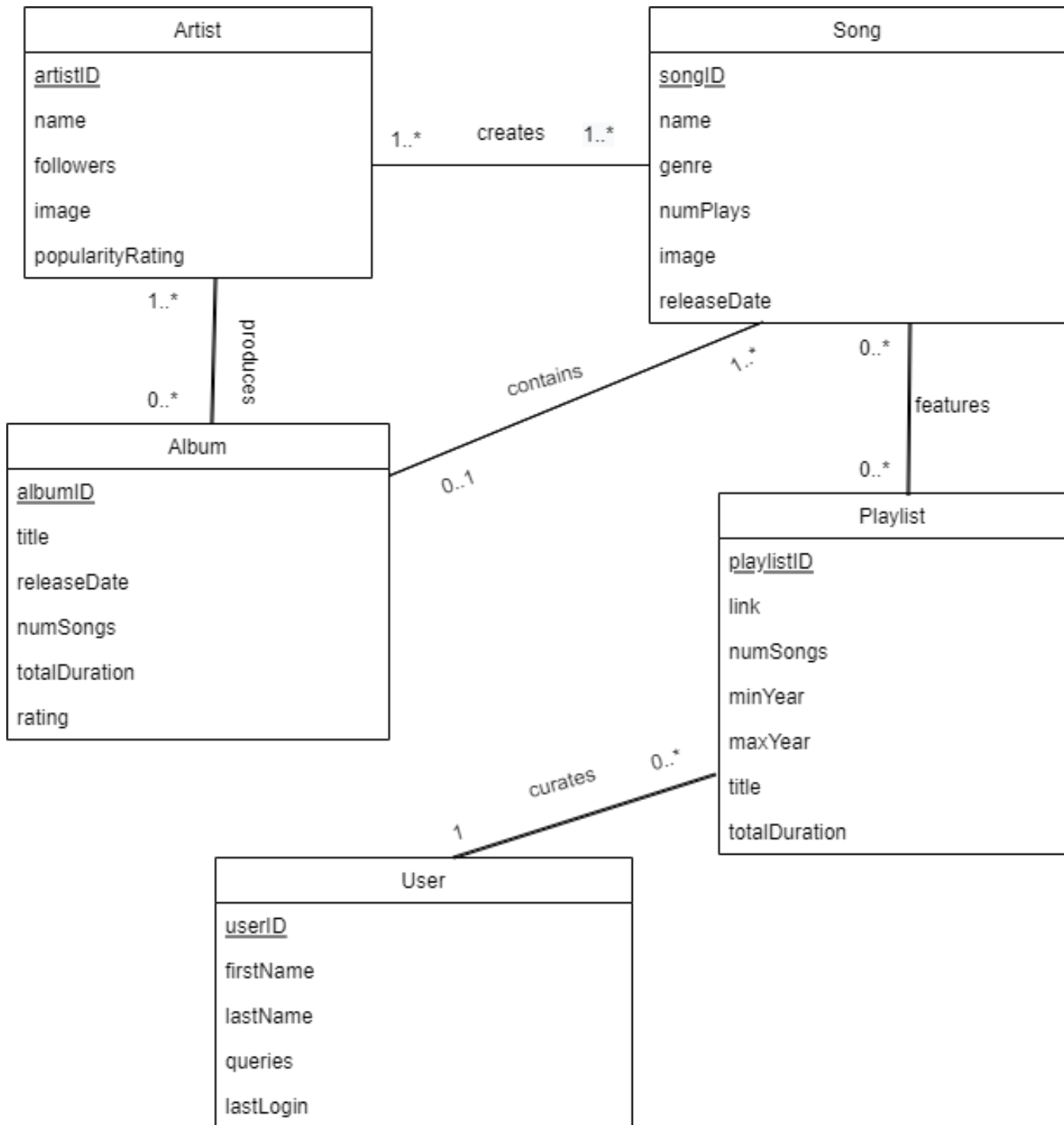


UML DIAGRAM:



RELATIONAL SCHEMA:

Artist(artistID VARCHAR(50) **PK**, name VARCHAR(50) **NOT NULL**, followers INTEGER, image VARCHAR(150), popularityRating INT)

Song (songID VARCHAR(50) **PK**, name VARCHAR(50) **NOT NULL**, genre VARCHAR(50), numPlays INTEGER, releaseDate DATE, totalDuration FLOAT, albumID VARCHAR(50))

Playlist (playlistID VARCHAR(50) **PK**, link VARCHAR(150), numSongs INTEGER, maxYear INTEGER, minYear INTEGER, title VARCHAR(50), totalDuration FLOAT, userID VARCHAR(50))

User (userID VARCHAR(50) **PK**, firstname VARCHAR(20), lastname VARCHAR(20), queries INTEGER, lastLogin DATE)

Album (albumID VARCHAR(50) **PK**, name VARCHAR(50) **NOT NULL**, genre VARCHAR(50), numPlays INTEGER, releaseDate DATE, numSongs INTEGER, totalDuration FLOAT)

Creates (artistID VARCHAR(50) **PK FK to Artist.artistID**, songID VARCHAR(50) **PK FK to Song.songID**)

Produces (artistID VARCHAR(50) **PK FK to Artist.ArtistID**, albumID VARCHAR(50) **PK FK to Album.albumID**)

Contains (albumID VARCHAR(50) **PK FK to Album.AlbumID**, songID VARCHAR(50) **PK FK to Song.songID**)

Features (playlistID VARCHAR(50) **PK FK to Playlist.playlistID**, songID VARCHAR(50) **PK FK to Song.songID**)

Curates (playlistID VARCHAR(50) **PK FK to Playlist.playlistID**, userID VARCHAR(50) **FK to User.userID**)

RELATIONSHIPS:

Creates

Cardinality: many to many

Description: Relationship between artists and song. Songs are created by Artists.

Assumptions: Any artist creates at least one song. Each song is created by at least one artist.

Produces

Cardinality: many to many

Description: Relationship between artists and album. Albums are produced by Artists.

Assumptions: An artist produces any number of albums including 0 albums. An album may be produced by at least one artist.

Contains

Cardinality: one to many

Description: Relationship between albums and songs. Albums contain songs.

Assumptions: An album must contain at least one song. A song cannot belong to more than one album.

Features

Cardinality: many to many

Description: Relationship between playlists and songs. Playlists feature songs.

Assumptions: A playlist can feature zero or more songs. A song can belong to zero or more playlists.

Curates

Cardinality: one to many

Description: A user can create multiple playlists, or have no playlists. A playlist can only belong to one user.

ASSUMPTIONS:

- 1) Songs:
 - a) We assume that the Songs in the Song's entity are unique and have unique songID's. Each of these songs belong to a single artist at least and they belong to at most one album. We assume that one song can have multiple artists.
- 2) Artists:
 - a) We assume that the artists in the artist's entity are unique and have unique artistID's. Each of these artists can create multiple songs and produce multiple albums. We do not include artists that have created no music in our database.
- 3) Playlists:
 - a) We assume that the playlists in the playlist's entity are unique and have unique playlistID. Each of these playlists can contain any number of songs (including zero).
- 4) Albums:
 - a) We assume that the Albums in the Album's entity are unique and have unique albumIDs. Each of these albums is produced by at least one artist and each album contains at least one song.
- 5) Users:
 - a) We assume that each User is uniquely identified by the UserId. The users can curate multiple playlists. A user can have zero playlists if they have not saved any previously curated playlists or have deleted old ones.

