M22CS4.301: Data and Applications Phase 3

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ER to Relational model

Strong entities

- Created **users** table for the **user** entity with **id** as the primary key.
- Created label_companies table for the record label company entity with name as the primary key
- Created **songs** table for the **song** entity with **id** as the primary key
- Created **creators** table for the **creator** entity with **id** as the primary key, also made separate tables **artists** and **bands** for the **artist** and **band** subclass of **creator**

Weak entities

- Created **albums** table for the **album** entity with **creator_id** as an extra attribute and using using (name, **creator_id**) as primary key
- Created **playlist** table for the **playlist** entity with **user_id** as an extra attribute and using (name, user_id) as primary key

Relations

- Created worked_on table for the works on relation with (created_id, song_id) as the primary key
- Created listens table for listens relation with (user_id, timestamp) as primary key
- Created **belongs** table for **belongs** relations with **artist_id** as primary key
- Created edit_access table for Has edit access relation with (playlist_name, creator_user_id, editor_user_id) as primary key
- Created release_information table for CSAL relation with song_id as primary key
- Created playlist_songs table for USPU relation with (playlist_name, creator_user_id, song_id) as primary key

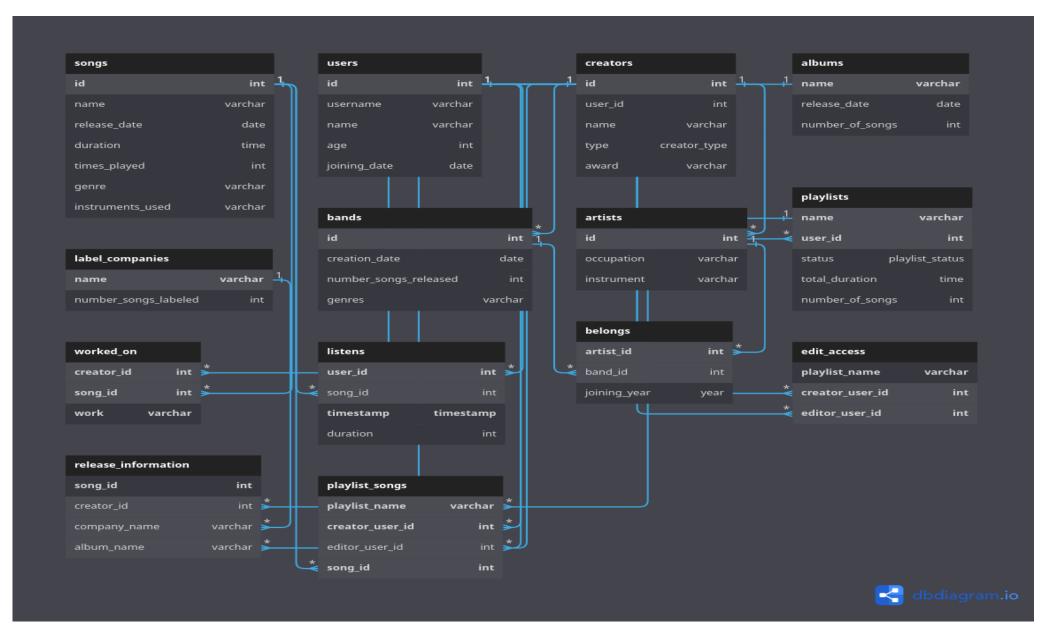


Figure 1: Relational model from ER diagram without any normalization

1st normalization (1NF)

Multivalued Attributes

- Created **creator_awards** table for the multivalued attribute **award**
- Created artists_instruments table for the multivalued attribute instrument in the artists table
- Created band_genres table for the multivalued attribute genre in the bands table
- Created song_instruments table for the multivalued attribute songs table
- Created song_genres table for the multivalued attribute genre in the songs table

2nd and 3rd normalizations

As there are no functional dependencies in our relational model apart from the ones with primary or candidate keys, so the 2nd and 3rd normalizations will be the same as 1st normalization.

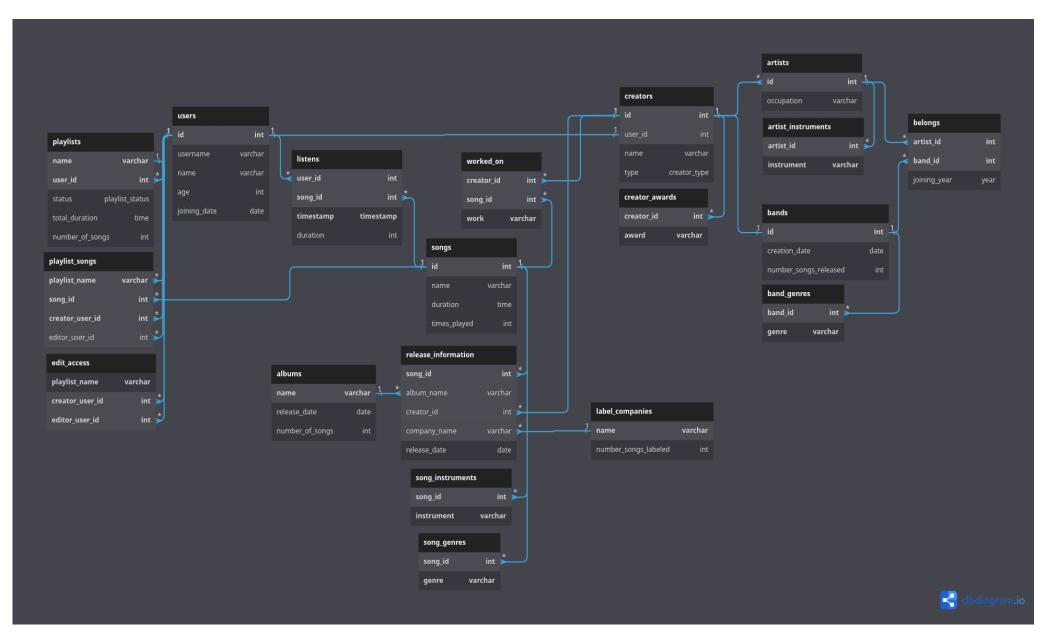


Figure 2: Relational model after normalization