Music Database

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Project Description

- Music database that allows the user to...
 - View songs
 - Add albums/songs
 - Search for songs
 - Based on album title, song title, artist
 - Filter by genre
 - Sort song results
 - By song title or song duration
 - Ascending and descending is allowed
 - Create playlists with songs in the database
 - Delete songs
 - Reset button to make all songs to display and clear search parameters

Tables

```
create table Artist (
    aid INT auto_increment primary key,
    aname VARCHAR(30) NOT NULL
);
```

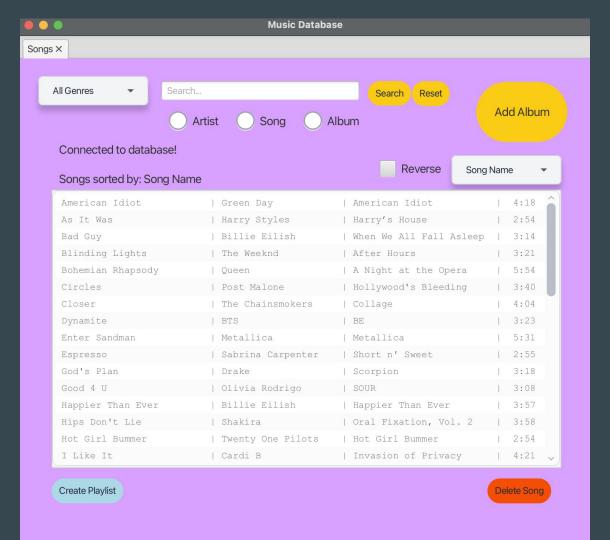
```
create table Song (
    sid INT auto_increment primary key,
    sname VARCHAR(30) NOT NULL,
    album VARCHAR(30) NOT NULL,
    genre ENUM(
        'pop', 'hip-hop', 'rap', 'country', 'reggae',
        'r&b', 'folk', 'blues', 'edm', 'classical',
        'rock', 'jazz', 'metal', 'punk', 'latin',
        'kpop', 'other'),
    length INT NOT NULL
```

Tables

```
create table Playlist (
    plid INT auto_increment primary key,
    plname VARCHAR(30)
);
```

```
create table Playlist_Song (
    plid INT,
    sid INT,
    primary key (plid, sid),
    song_order int not null,
    foreign key (plid) references Playlist(plid) on delete cascade,
    foreign key (sid) references Song(sid) on delete cascade
);
```

Demo



What Did We Learn?

- How to set up the environment, including:
 - Scene Builder
 - Github Repository
 - Initial Database (mySQL Workbench)
 - Java/mySQL connection
- How to use:
 - JavaFX library functions
 - SQL Queries through Java
 - JavaFX library components
 - ModalControllers and actionEvents
 - Java SceneBuilder
- How to work in a team successfully
- How to consistently dedicate time for a project

Major Difficulties

- Phase 1: Getting started
 - Which idea to do
 - Weren't sure where to start
 - Learning curve
- Phase 2: Getting familiar with Scene Builder and JavaFX
 - o JavaFX library was confusing and all new for all of us
 - What they are and what we can do with them
- Phase 3: Implementing a reusable/understandable layout for our code
 - Since everyone was working on individual parts, it was hard to understand how the main functionalities were set up
- Implementing SQL commands through Java
- Lack of time