

# 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

Songs X

All Genres

Search...

Search

Reset

Add Album

☐ Artist

☐ Song

☐ Album

Connected to database!

Songs sorted by: Song Name

☐ Reverse

Song Name

American Idiot	Green Day	American Idiot	4:18
As It Was	Harry Styles	Harry's House	2:54
Bad Guy	Billie Eilish	When We All Fall Asleep	3:14
Blinding Lights	The Weeknd	After Hours	3:21
Bohemian Rhapsody	Queen	A Night at the Opera	5:54
Circles	Post Malone	Hollywood's Bleeding	3:40
Closer	The Chainsmokers	Collage	4:04
Dynamite	BTS	BE	3:23
Enter Sandman	Metallica	Metallica	5:31
Espresso	Sabrina Carpenter	Short n' Sweet	2:55
God's Plan	Drake	Scorpion	3:18
Good 4 U	Olivia Rodrigo	SOUR	3:08
Happier Than Ever	Billie Eilish	Happier Than Ever	3:57
Hips Don't Lie	Shakira	Oral Fixation, Vol. 2	3:58
Hot Girl Bummer	Twenty One Pilots	Hot Girl Bummer	2:54
I Like It	Cardi B	Invasion of Privacy	4:21

Create Playlist

Delete Song

# 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
  - 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