

INFO 6210 – Database Design Document – Group B

- **Database Topic:** Music-Streaming Application Database

- **Database Description:**

The database we design for the project is for music-streaming applications (e.g. Spotify). Users of the application will be able to perform music-related searches, listen to songs or podcasts live, and add them to their personal playlists. The database maintains information related to songs, podcasts and user preferences.

- **Database Objectives:**

- Persist information related to songs, such as Artists, Albums, Genres, Songs, and Lyrics.
- Persist information related to podcasts, such as Podcast Series, Episodes, and Categories.
- Manage user information and preferences, such as Playlists, Favorites, Purchased, and Downloads.

- **Business Rules:**

- All playlists are private, i.e. there is no publicly shared playlists.
- Songs can be purchased, added to playlists, and added to favorite lists.
- Favorites is a list of songs.
- Purchased is a list of songs.
- Playlists are lists of songs.
- Podcasts can only be downloaded to download list.

- **Design Decisions: 19 Entities**

- Artist
 - Contains information about a singer/band
 - Many-to-Many: Album, Genre
- Album
 - Contains information about an album
 - Many-to-Many: Artist, Genre, Songs
- Artist_Album
 - Associative entity for Artist and Album
- Genre
 - Contains information about a music genre
 - Many-to-Many: Album, Artist
 - One-to-One: Songs
- Artist_Genre

- Associative entity for Artist and Genre
- Album_Genre
 - Associative entity for Genre and Album
- Songs
 - Contains information about songs
 - Many-to-Many: Album,Playlist
 - One-to-One: Purchases, Genre, Lyrics
- Songs_Album
 - Associative entity for Songs and Album
- Songs_Playlist
 - Associative entity for Songs and Playlist
- Lyrics
 - Contains lyrics information of a song
 - One-to-One: Songs
- Podcast Series
 - Contains information about a podcast series
 - One-to-Many: Episodes
 - Many-to-One: Category
- Episodes
 - Contains information about one podcast episode
 - Many-to-One: PodcastSeries
 - One-to-One: Purchases
- Category
 - Contains information about podcast category
 - One-to-Many: PodcastSeries
- Users
 - Contains userinformation
 - One-to-Many: Playlist, Purchases
 - Many-to-Many: Favourite
- Users_Favourite
 - Associative entity for Users and Favourite
- Playlist
 - A specific list of songs created by users
 - Many-to-One: Users
 - Many-to-Many: Favourite, Songs
- Playlist_Favourite

- Associative entity for Playlist and Favourite
- Favourite
 - Contains user's favorite list of songs
 - Many-to-Many: Users, Playlist
- Purchases
 - Contains user's purchased songs
 - One-to-One: Users