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Music Management System

- Scenario

The purpose of the project will be to create a system that allows control over various music related concepts. It will work with ideas like accessing and manipulating songs, playlists and albums, as well as incorporating functionality for users such as listeners and artists.

- Design Paradigm

  As of now the following functionalities are planned to be included:

  1. Songs: Playing, skipping, rewinding and queuing; storing and accessing information, such as artists, genres, creation date, etc.; creating songs as an artist
  2. Playlists: Creating playlists as a listener; Adding/removing songs; sorting based on different criteria;
  3. Albums: Adding songs to albums as an artist; adding albums to playlists as a listener;

- Expected Output

  Using the application, a user would be able to manage and control songs as well as keep track of different information concerning the songs. They would be able to create and manage their own playlists in order to develop their personal library, with the addition of being able to save albums as well. Users could also create artists, through which they would be able to release songs, EPs, and albums.

- The project will have three main hierarchies:
  1. Class **libraryItem**, which will be extended by **song**, **playlist** and **album**;
  2. Class **user** which will be extended by **listener** and **artist**

- The classes **song**, **playlist** and **album** will implement the **playable** interface which will be used to control a user's listening selection.

- Methods that will rely on runtime-polymorphism are play() and queue().
- TextIO will be used to print playlists to text files, i.e. essentially an export() method that writes to text files.
- **song** will implement comparable as well as require a comparator which will be used for sorting in playlists.

- With the submission of deliverable 2, the project will see the implementation of the **playlist**, **song** and **album** classes.

Here is a rough representation of the two hierarchies: