MP3 Music Player

GROUP MEMBERS

- ➢ M.Muneeb Zaidi   FA21-BCS-036

- ➢ Syed Ajlal Haider   FA21-BCS-054

- ➢ M.Aliyan Ul Haq   FA21-BCS-105

INTRODUCTION

A sophisticated MP3 music player application crafted using Java and JavaFX. It blends Object-Oriented Programming (OOP) principles with robust Data Structures to provide a seamless and feature-rich musical experience. This project goes beyond the standard playback functionalities, offering users the ability to dynamically create, manage, and save personalized playlists.

KEY FEATURES

- Our MP3 Player comes with a user-friendly interface making navigation through the user's music library effortless.
- The application excels in dynamically loading and displaying a list of music files, providing users with an overview of their collection.
- Users can easily control playback with options to play, pause, skip forward, skip backward, and adjust volume levels. The player also offers seamless pause-play toggle functionality.
- It also empowers users to create and manage a dynamic queue of songs, ensuring an uninterrupted musical journey.
- Users can create custom playlists, curating their music based on mood, genre, or personal preference.
- The application provides the ability to save and load playlists so that users can access their curated collections in the future.

- It also offers options for shuffling the playlist and repeating individual songs or playlists.

DSA and OOP Implementation

Data Structures (DSA):

Linked Lists: Utilized for playlist creation and queue management, enabling efficient insertion, deletion, and navigation of songs.
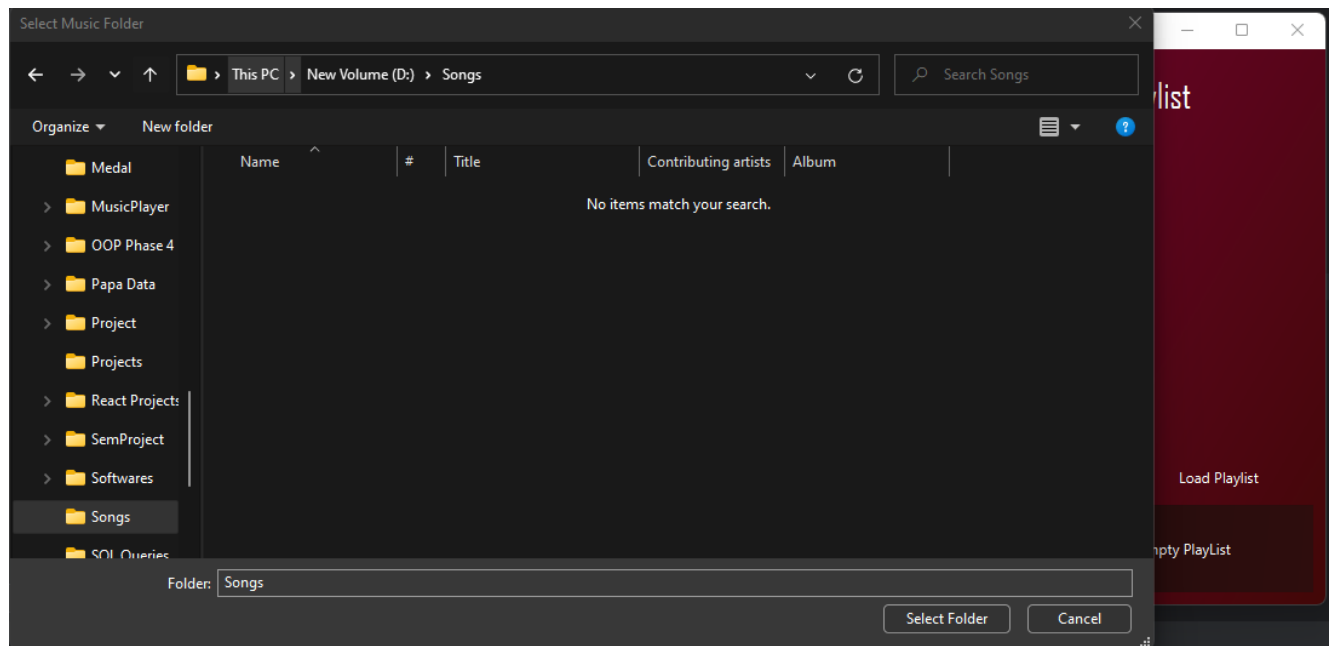
Object-Oriented Programming (OOP):

Class Hierarchy: A structured class hierarchy is established to represent music files, playlists, and queue elements, promoting code reusability and modularity.
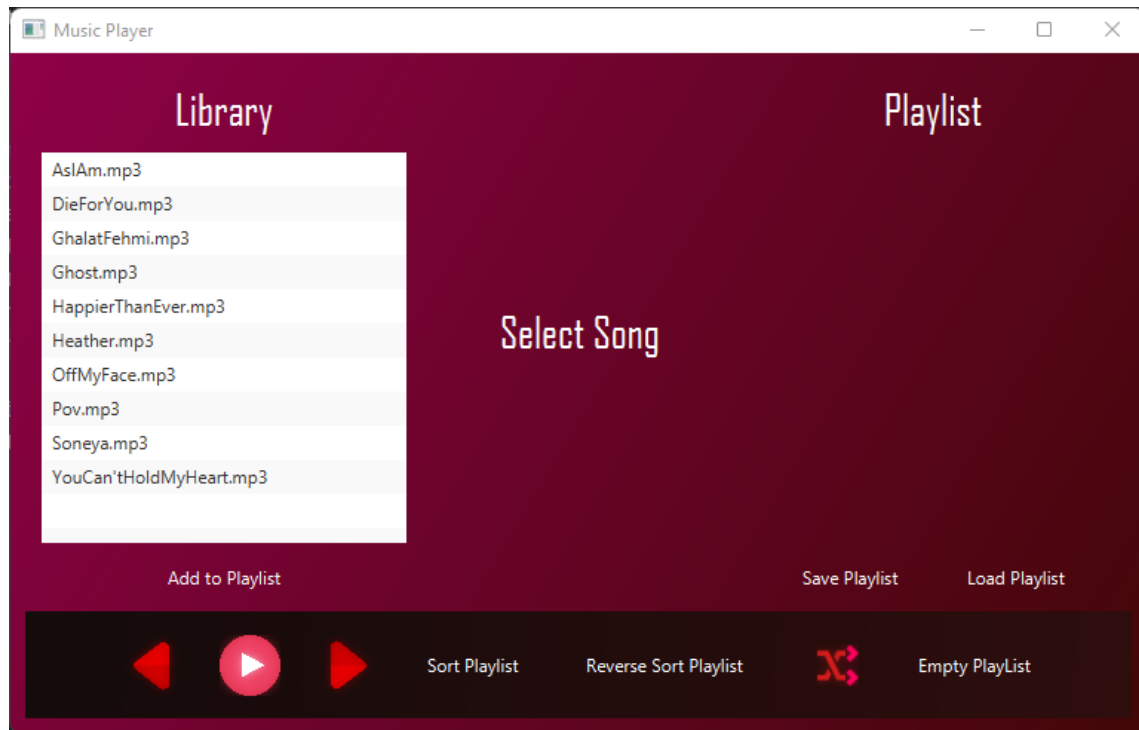
Encapsulation: Key functionalities are encapsulated within respective classes to ensure clear separation of concerns and maintainability.
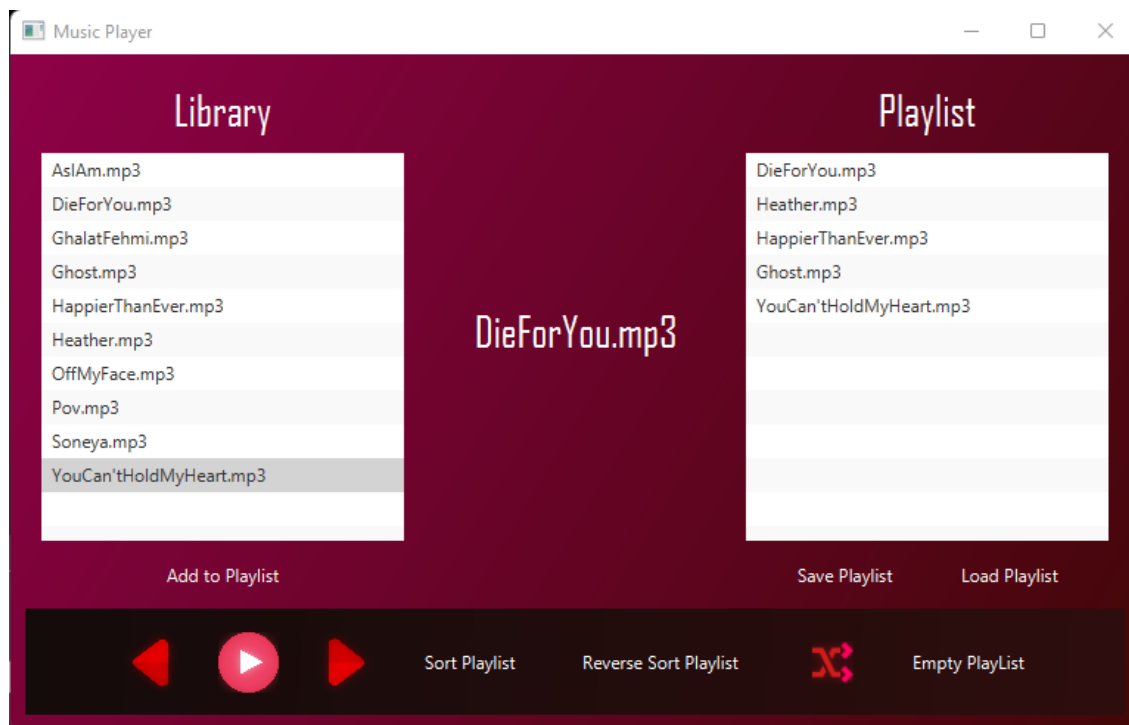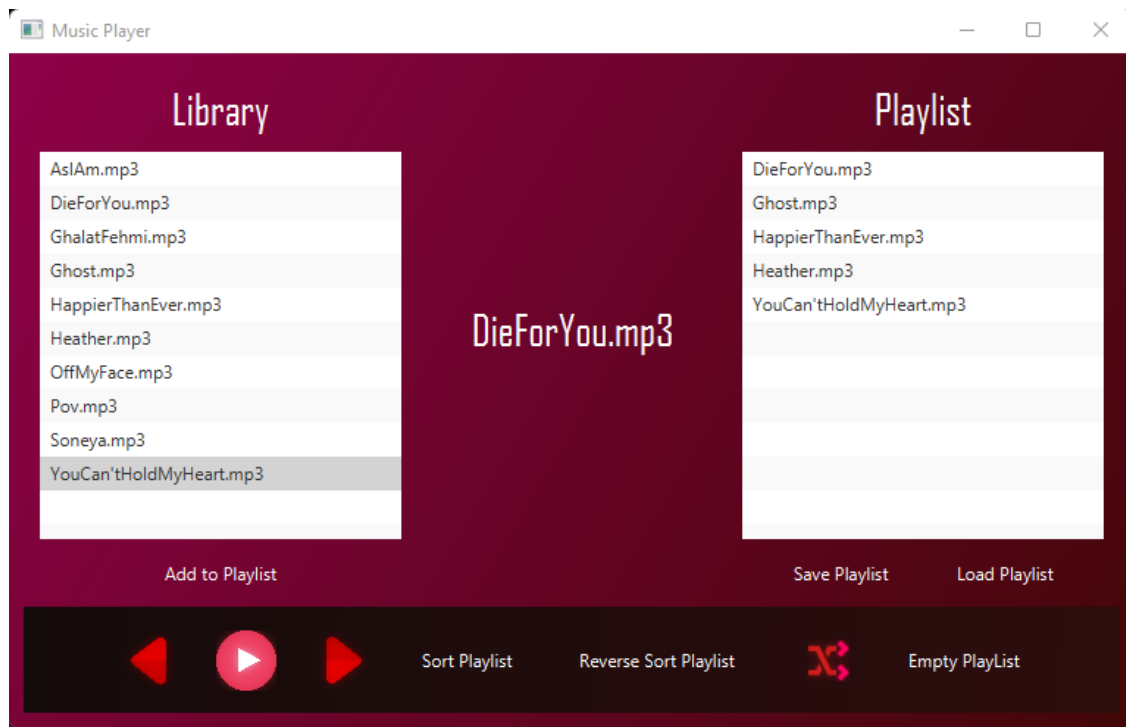
Gallery

Select Music Folder:

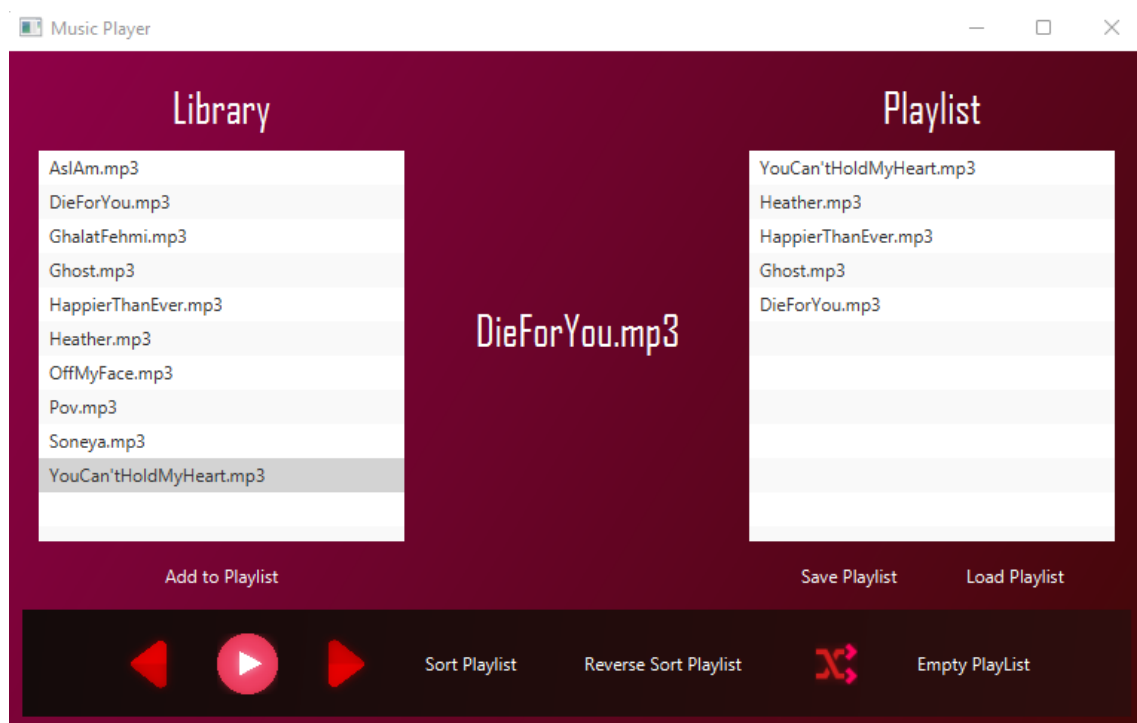*Opened the mp3 player after selecting desired library:*

Selected songs to play and they automatically got added to the queue/playlist:
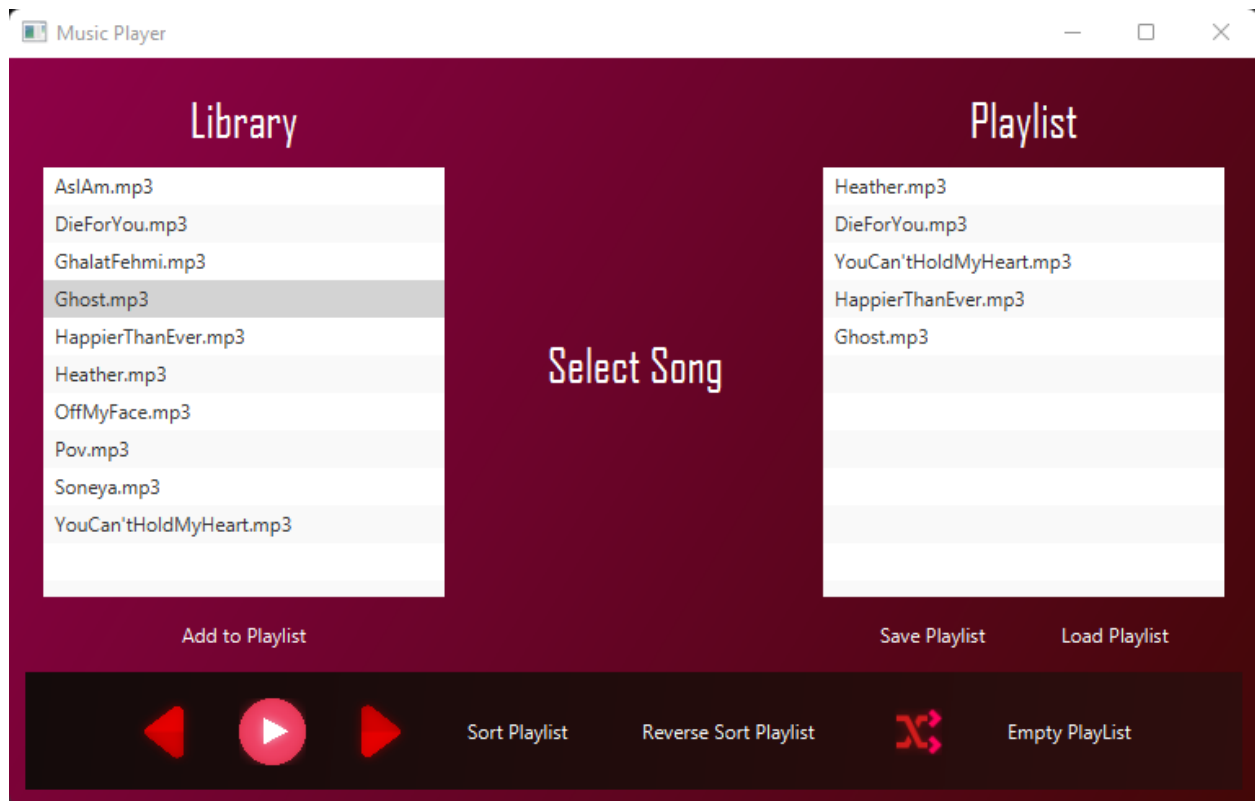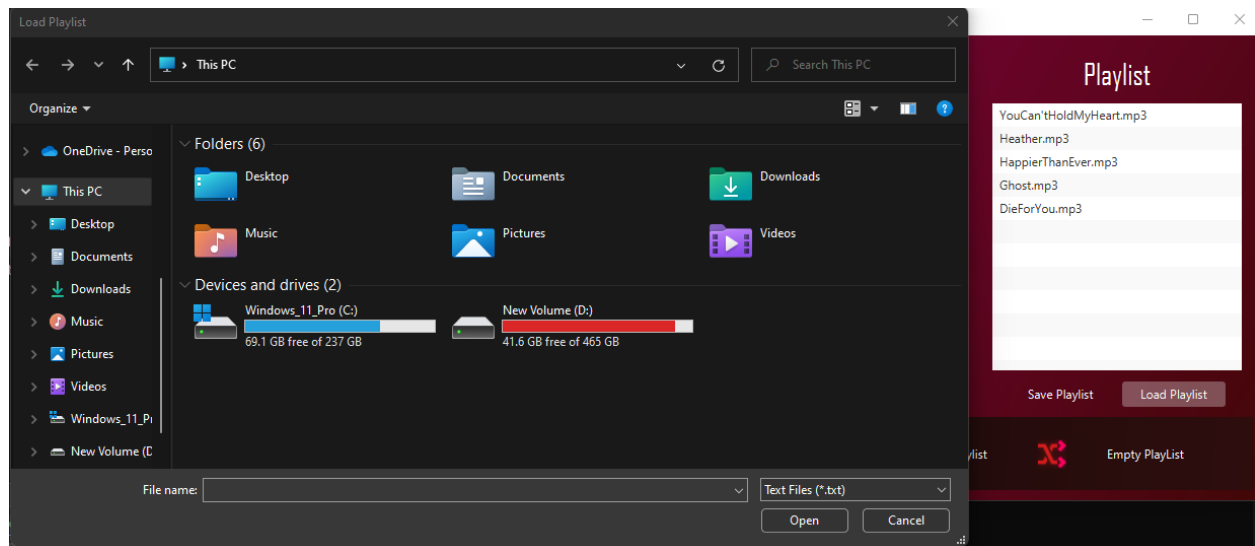
Sorted the Playlist alphabetically:

Sorted the playlist in reverse order:

Shuffled the Playlist:

Save a Playlist:

Load a Playlist: