DEPARTMENT OF INFORMATION

TECHNOLOGY

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A Mini Project Synopsis on

Music Player

S.E. - I.T Engineering

Submitted By

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Under The Guidance Of:

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CERTIFICATE

This to certify that the Mini Project report on **Music Player System** has been submitted by Alok Gupta (21104028), Sankalp Gunjal (21104087) and Yatish Gharat (21104050) who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Chapter 1

Introduction

A music player system using python is a software application that users play, organize, and manage their digital music files. With python libraries like Pygame and Tkinter, developers can easily build a music player with features such as browsing local files and playlist management.

1.1. Purpose:

The purpose of a music player system built with Python is to offer users a way to manage and play their music files digitally. The audience can play their music on their computer, including music enthusiasts, audiophiles, and casual music listeners.

1.2. Objectives:

- To provide a simple and easy-to-use interface for playing and managing digital music files.
- To support various audio formats, such as MP3 and WAV, and provide high-quality playback.

1.3. Scope:

The scope of a music player system is to provide a basic software application that allows users to play and manage their digital music files with a simple and intuitive user interface, supporting basic features such as playback control and browsing local files.

Chapter 2

Problem Definition:

The problem identified was that we need a music player that supports all operating systems used by the people, and it should not interrupt the user's music listening experience (with any kind of advertisements, etc.) We need to develop a music player system that allows users to browse, search, and play songs from a folder. The system should have a user-friendly interface that allows users to easily navigate and find songs they want to listen to.

The system should be scalable and able to handle a large number of songs. It should be reliable and provide a smooth listening experience without interruptions or delays.

Chapter 3

Proposed System:

It lets you manage all your music files and folder quickly and easily. Ease of access to your music files. There are several libraries available in Python for implementing a music player system. One of the popular libraries is pygame.

Metadata is information that provides context and descriptive details about a particular piece of data, in this case, a music file. In a music player system, metadata is used to help organize, search, and display music files to the user.

Pillow is a popular Python library used for working with images. It can be used to display album art for songs in a music player interface. Album art is a type of image that is associated with a music album, and typically includes the album title, artist name, and an image that represents the album's theme.

3.1. Features and Functionality

- A GUI that allows the user to interact with the music player.
- It consists of various buttons as functions such as play, pause, previous, next, add library, add songs, remove song, volume control, displaying upcoming and playing now songs.
- The music player consists of basic features like displaying the music files of a particular folder and playing the selected songs.

Chapter 4

Project Outcomes

The project outcomes for a music player system using pure Python which can be operated over different operating systems. Even it does not cause any kind of interruption (such as advertisements) while listening to the songs.

The music player includes basic playback controls such as next song, previous song, play and pause songs, volume control, playback time of the song, browsing for a folder to play songs from, add songs as per your choice (one by one) to create your own playlist, remove a particular song from the present playlist or remove the whole playlist. Also, we have implemented metadata management such as it shows the album art of the currently playing song and the next upcoming song.

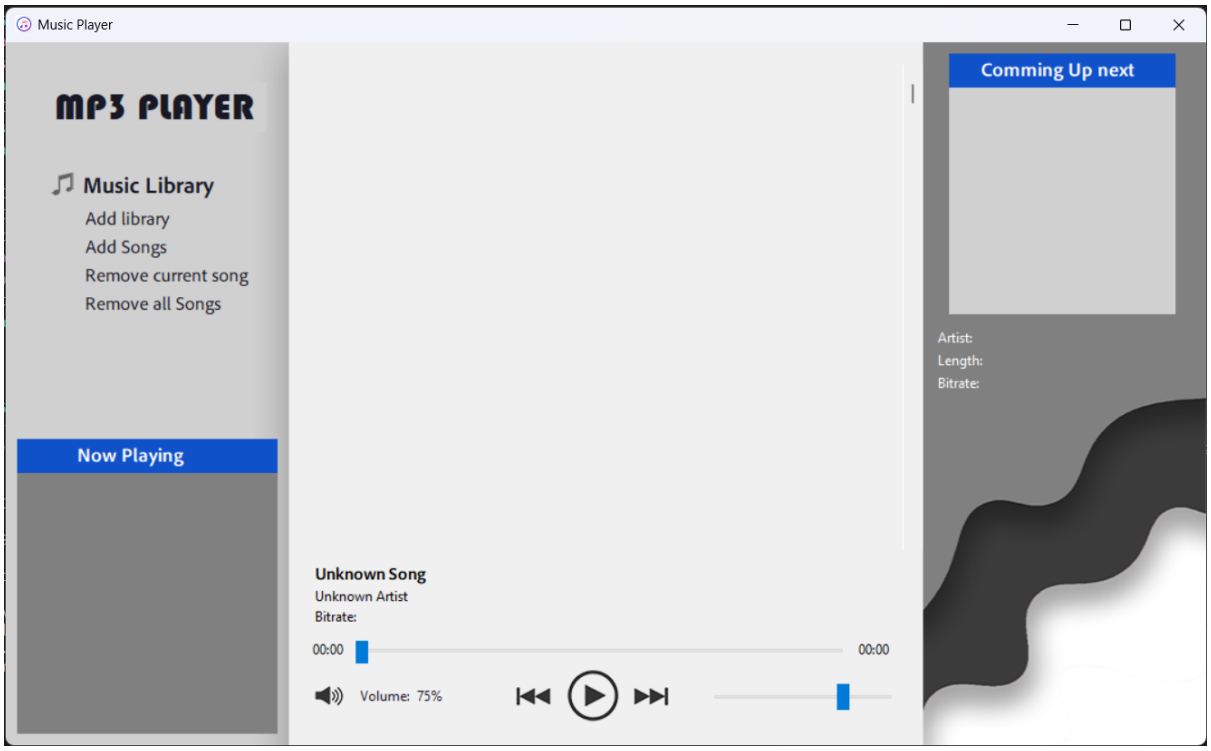
Chapter 5

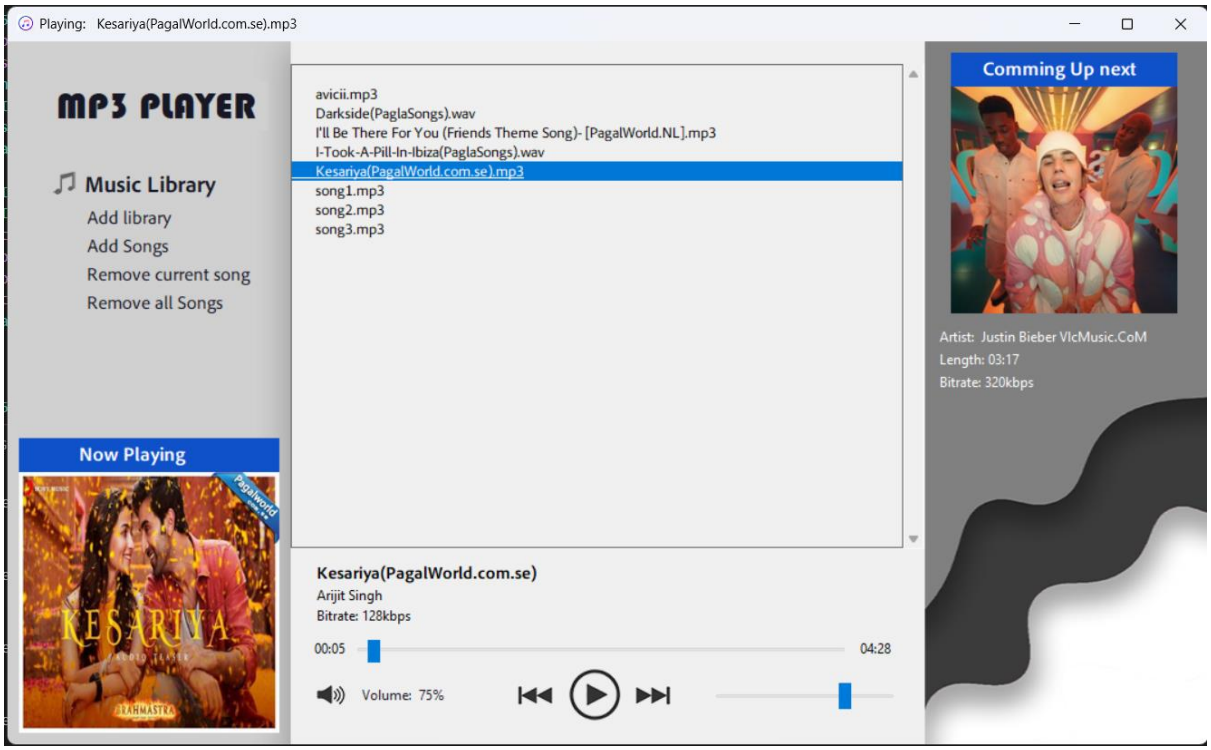
Software Requirements

- Python: Python programming language of version 2.7 and above is required.
- Pygame: A popular Python library for creating games and multimedia applications. Pygame can be used to build the UI and handle audio playback in a music player.
- Tkinter: A standard GUI library for Python that can be used to build the user interface for the music player.
- Pillow: Pillow is a Python library for working with images. It allows you to open, manipulate, and save image files in various formats, and perform tasks like resizing, cropping, and adding text.
- Mutagen: Mutagen is a Python library that provides an easy-to-use interface for reading and writing metadata in audio files. It supports various audio file formats and allows you to manipulate metadata properties such as title, artist, and album.

Chapter 6

Project Design





Chapter 7

Project Scheduling

Sr. No	Group Member	Time duration	Work to be done
1	Sankalp S. Gunjal Alok Gupta Yatish Gharat	In the month of January.	Creating the GUI using Tkinter and adding basic functionalities to music player.
2		In the month of February.	Implementing more features for playlist management.
3		In the month of March and April.	Implementing advanced features such as supporting multiple file types, fetching metadata of music, etc.

Chapter 8

Conclusion

Thus, we have made a music player which can be used on any operating system as Python is a platform independent language. It displays the content selected from your systems directory. It even has a functionality of sorting out the songs from the displayed list by adding or removing songs based on user's preference.

References:

1. https://www.w3schools.com
2. https://stackoverflow.com