

MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE, GWALIOR (M.P.)

(A Govt. Aided UGC Autonomous & NAAC Accredited
Institution Under RGPV, Bhopal)



Project Report

On

"PY MUSIC"

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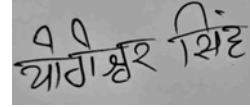
CERTIFICATE

This is to certify that CHIRAG UBNARE (0901IT191019) and DEVENDRA PANTHI (0901IT191021) minor project, " PY MUSIC " is a genuine record of a project completed under our supervision and guidance in partial fulfilment of the requirements for the award of a Bachelor of Technology in Information Technology in the Department of Information Technology, Madhav Institute of Technology and Science, Gwalior.



(Prof. Vikas Sejwar)

Mentor



(Prof. YOGESHWAR SINGH)

Mentor

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- **Abstract:**

Audio is an important source of communication and is just as important today as text. We know that audio files are digital files. So, you need a tool to run the digital files, or in other words to play the files. Without this tool or player, we can never listen to music, movies or the contents of an audio file. So, we need music players. This device is used to play music and other digital audio files. You can do it yourself, without having to download and install premium music players. The music player GUI project idea tries to emulate the physical music player. This program allows you to play songs, music and all music files on your desktop or laptop. Using Python is a basic programming application built using the Python programming language. It is a GUI program created using the Python Tkinter, Pygame libraries. The music player application must be able to play a song, create and display a playlist, pause, and resume a long song, and change the song. play the previous or next song.

Keywords: Music, Python, GUI, MP3

• **INTRODUCTION:**

We need an application that will allow us to play or listen to digital audio files. The music player is the device for playing MP3 and other digital audio files. The music GUI program application attempts to emulate the physical music player. This program allows you to play songs, music and all music files on your desktop or laptop. The main goal of this project is to enable users to play music and digital audio files. In order to be attractive to users, the application must have a simple but beautiful user interface. Music Player has options to play, pause and stop. We can have an interface to list the music files available. You can also allow users to list other digital audio files that are not music. Users are also waiting for the music player. have an interface that displays information about the file being played. Python has libraries that can play audio files, such as: Pygame, which allows you to work with media files in just a few lines of code. Recently, music has become popular with this generation. Most software companies develop so many types of players that they can support MP3 files. We can also implement a feature that allows users to create a playlist. To do this, we'll need a database to store information on the created playlists. Python's sqlite3 module allows you to use the SQLite database. II. P

- **SYSTEM ANALYSIS:**

2.1 SYSTEM OBJECTIVES

In our daily life, we see every person has a hobby and that is listening to music. So, in order to listen to music, they all need a Music player (hardware or software) where they can play their favourite songs. And we have to install this music player on our computer, based on the Operating system i.e., Windows, Macintosh, Android, Linux, etc. Then we can listen to our favourite songs.

2.2 SYSTEM ARCHITECTURE

Music players are media software that are specifically designed to play audio files. These tools support a wide range of music formats, including MP3. Such applications help you to organize your song library with ease.

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- **SYSTEM SPECIFICATION**

3.1 HARDWARE SPECIFICATION

Since the hardware's are the important part while developing a web project, its necessary to find hardware

requirements. **Processor:**

System type 32-bit operating system, x32-based processor.

RAM– For higher speed of the processing, it also depends on the memory. Therefore, for better performance minimum RAM should be 4 GB.

Hard disk– In modern days, there is a vast amount of data is generated daily from the internet platforms. So, a good size of hard disk is required for the storage of the processed data

Cache Memory– Access time of the operation tasks mainly depends on the cache memory. Therefore, the recommended cache memory is

3.2 SOFTWARE SPECIFICATION

Our system should meet following minimum specifications

OS —

Windows 8, 10

We will be using Python technologies and we also need an application such as PyCharm. It is necessary to have python installed on the system and modules of python such as Tkinter Pygame and filedialog installed on it.

- **Software Architecture**

4.1 Architecture Overview

This application uses Python language. Front end is designed in python with the help of PyCharm. In PyCharm we have used different libraries Tkinter, PYgame, Filedialog.

Libraries Used

1. Pygame: to play, pause, load, stop, and resume music.
2. Tkinter: to develop GUI.

4.2 Software Process Model

The Spiral model is used as Software process model. We used this model as it is very flexible. The enhancements will be in the area of security and verification of various systems introduced into the software.

4.3 Process Modules

The functionalities of the system are divided and then assigned to components as described below.

. **System Design Details**

5.1 GUI Name and Description

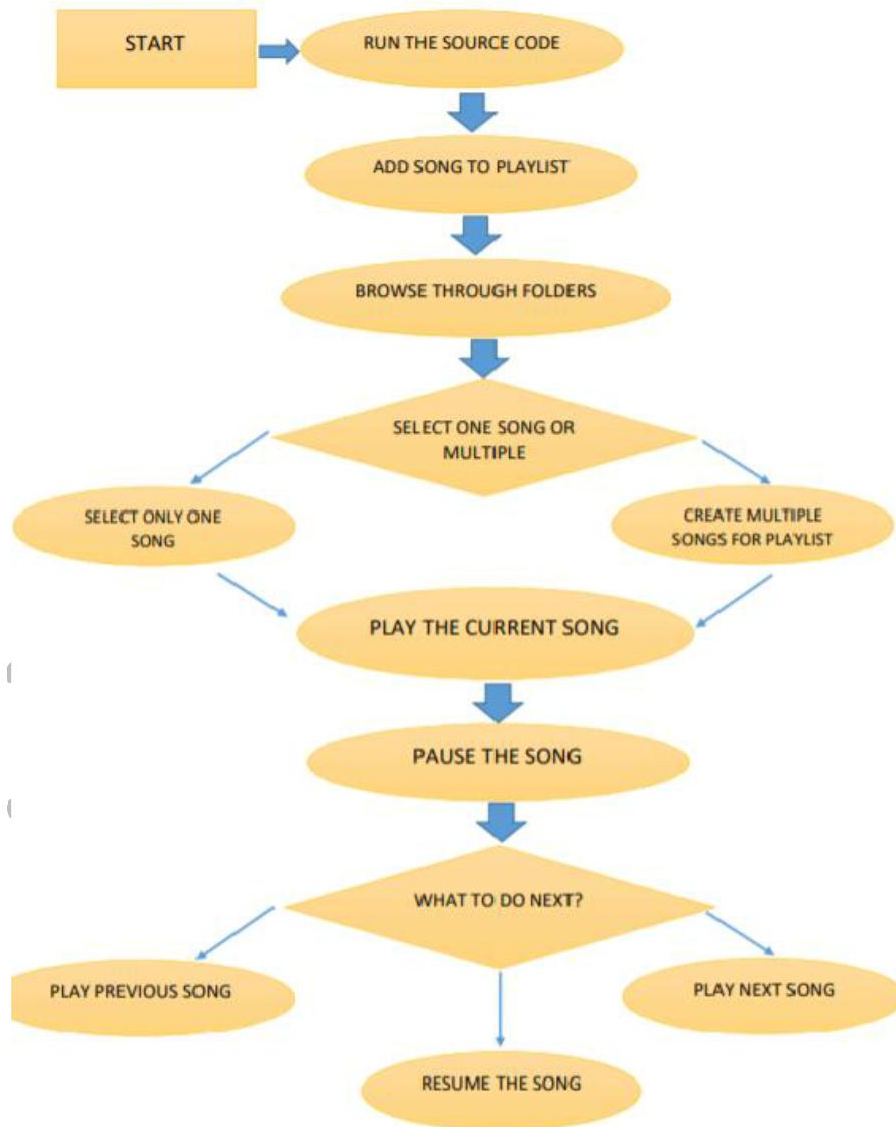
Interactive user interface is provided by the software. In PyCharm we have used different libraries Tkinter, Pygame, Filedialog.

5.2 Design Details

a) Processing within module We have to develop the user interface for the application through which the user interacts with the application.

b) Error Checking Errors occurring due to connection problems. Error can also occur if the file does not contain a column named location.

FLOW DIAGRAM



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• Testing

Testing of program is done to find error in the given program. It is one of the major steps in the software development process. It is the final step in the software development lifecycle

6.1 Testing Objectives Testing of program is done to find error in the given program. It is one of the major steps in the software development process. Various type of testing includes system testing, integration testing, unit testing. Each of the testing process test some specific features of the software.

6.2 Integration Testing We have multiple modules in the application after combining them we complete testing of the module and do the integration testing. It checks the co-ordination between various modules of the application.

6.3 System testing

System testing is to test the execution of whole software. It answers "Is whole software is running & performing well".

System testing is usually coming with verification and validation.

Verification is the checking of items, including software, for conformance and consistency with the associated specifications. Software testing is just like verification, and also uses the techniques such as reviews, analysis, inspections and walkthroughs. Validation is the process of checking that what user actually wants.

Validation: Are the job which is being done is right?

Verification: Are we performing the right job?

There are three different types of system testing which are: -

1. Logical Testing: In this type of testing, we check our software with the extreme cases.
2. Functional Testing: - In this testing we check whether the web service application is functional.

- **System Implementation and Maintenance**

7.1 Implementation

To ensure the success of the system the implementation step is carried out. If the system is not properly implemented the well-defined system can fail. To transform information system to operational system implementation activities are used.

7.1.1 Hardware Software and Services: The hardware and software used in the web application is:

1. Hardware: HP, Dell, asus PC etc.

2. Software: Microsoft Windows, Python etc.

7.2 Maintenance When the system is fully implemented, its maintenance is done. System maintenance is done to check whether the software system is performing well or not. If there is any error then we have to remove it

• **ALGORITHM**

1. Import the libraries.
2. Create an object of the tkinter and Pygame libraries.
3. Create a window using Tkinter object.
4. Add buttons that provide different functionalities. • Add a song • Play the song • Pause the song • Play previous song • Play next song
5. Add a song button when pressed should open a dialog box to browse and choose the file.
6. Add label to display the song's information. • Name • Singer • Duration • Size of the file, etc.
7. Display screen will display the details of the entire playlist.
8. Close button will automatically clear the song list and will stop playing.

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- **PYTHON LIBRARIES USED**

a. Tkinter: We already told you in the title of this page that we will be using the Tkinter library, a standard library for GUI creation. The Tkinter library is the most popular and easiest to use and contains many widgets (these widgets help create attractive GUI applications). Also, Tkinter is a very lightweight module and useful for building cross-platform applications (so the same code can be easily used on Windows, macOS, and Linux).

b. Pygame module: Pygame is a Python module that works with computer graphics and sound libraries and designed with the power of playing with different multimedia formats like audio, video, etc.

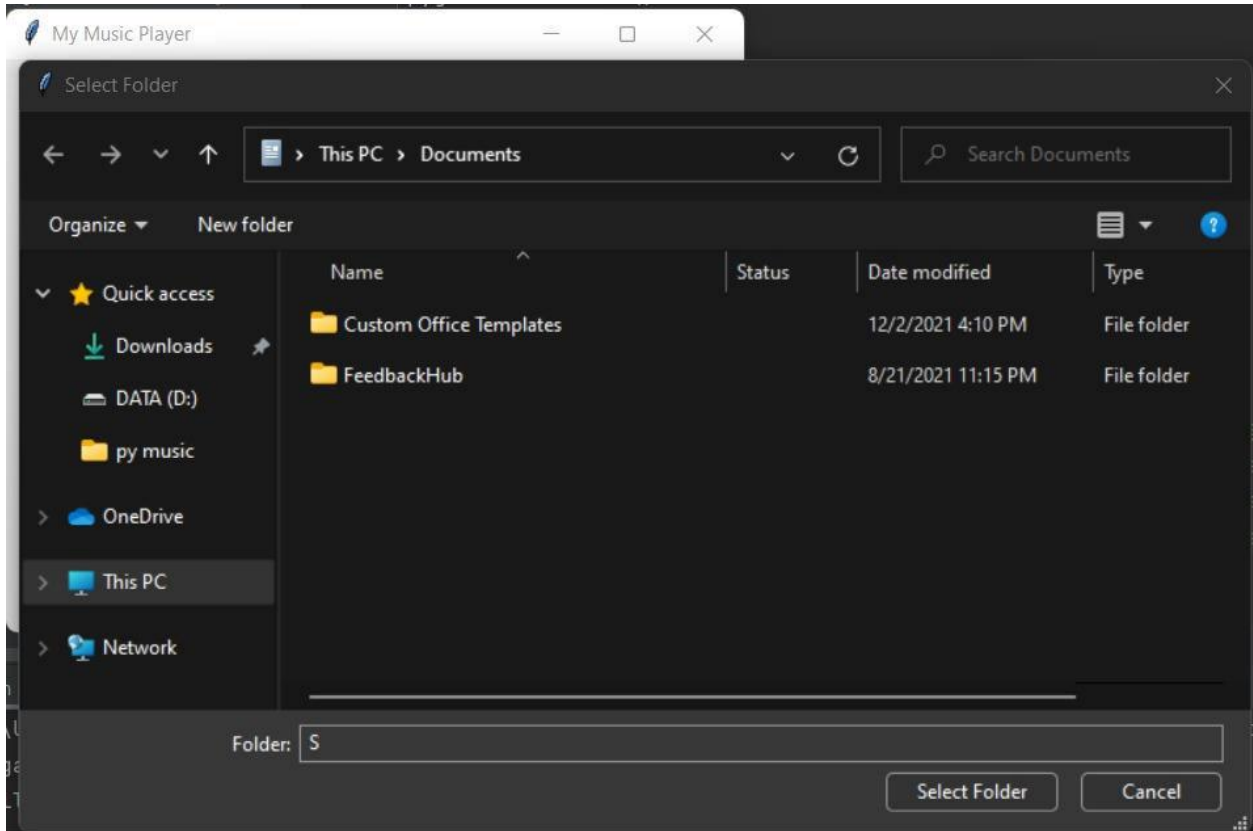
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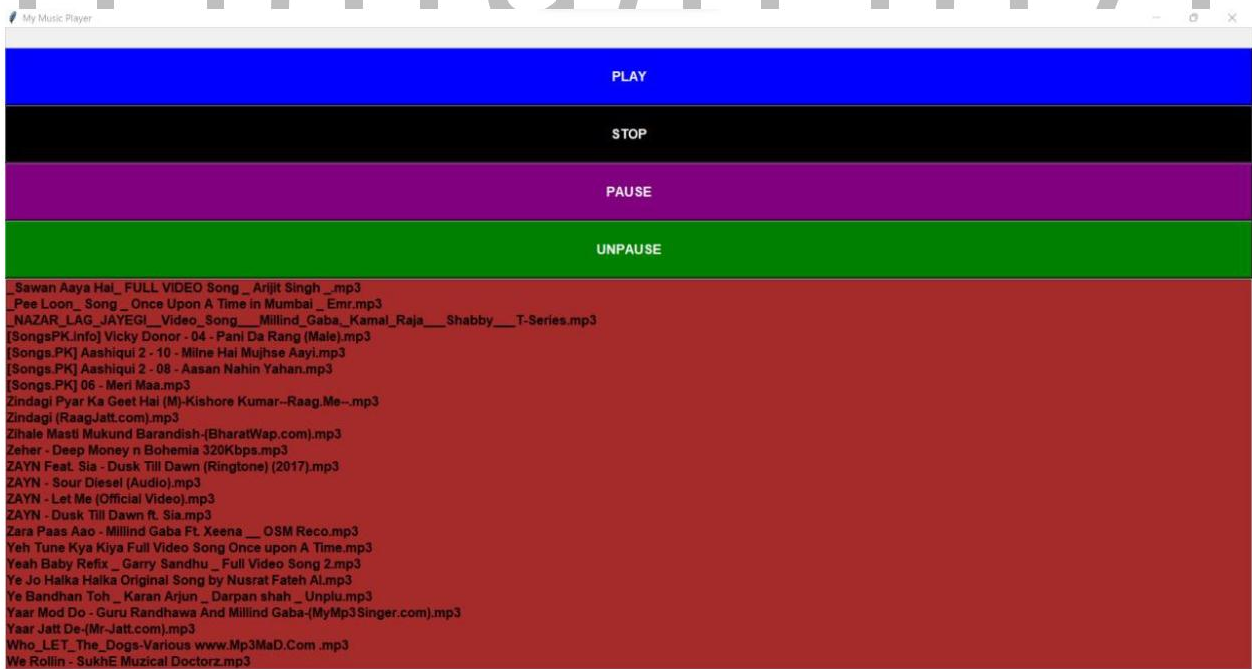
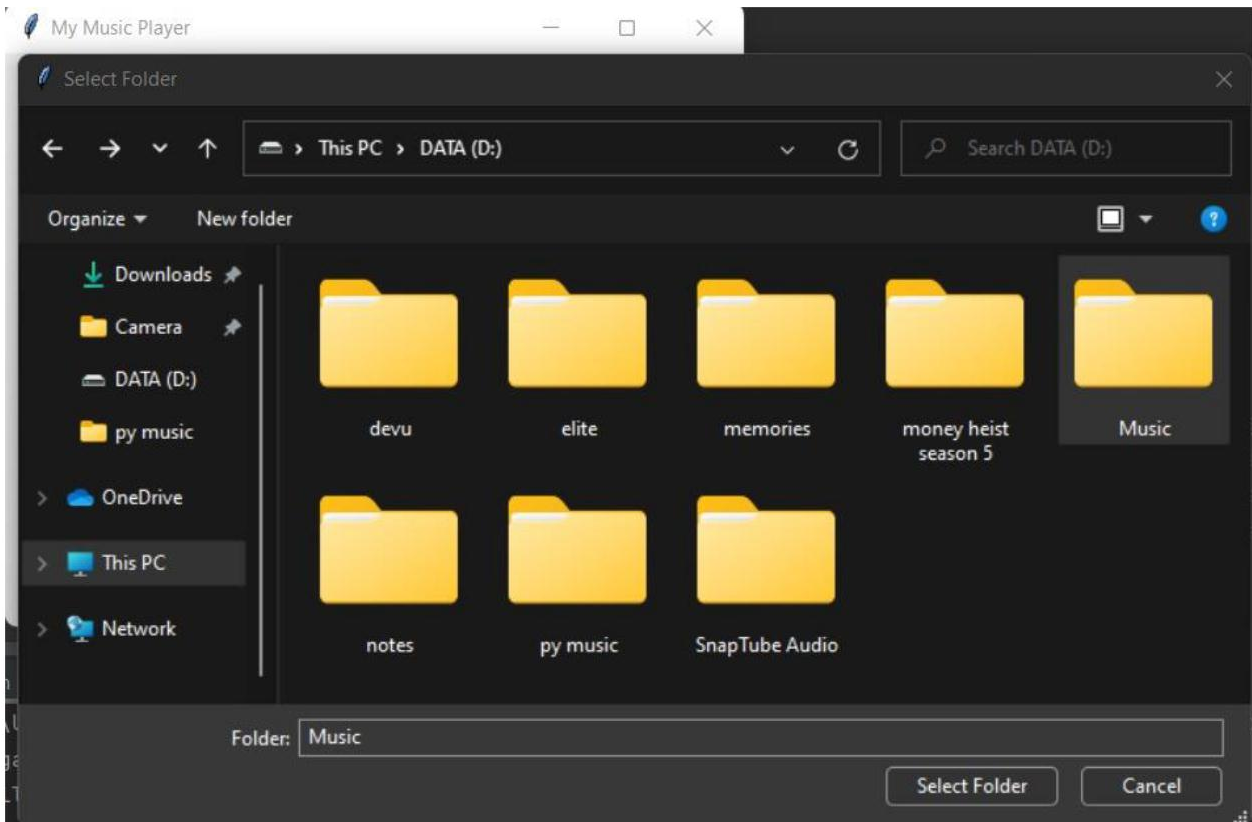
- **SOURCE CODE**

<https://github.com/chiragubnare/music-player>

• **OUTPUT:**

10.1 SNAPSHOT





```
File Edit View Navigate Code Refactor Run Tools VCS Window Help pythonProject - main.py
pythonProject
Project
  pythonProject
  venv
  include
  lib
  Scripts
  gitignore
  pyvenv.cfg
  main.py
External Libraries
Scratches and Consoles
main.py
1 import pygame
2 import tkinter as tk
3 from tkinter.filedialog import askdirectory
4 import os
5
6 music_player = tk.Tk()
7 music_player.title("My Music Player")
8 music_player.geometry("450x350")
9 directory = askdirectory()
10 os.chdir(directory)
11 song_list = os.listdir()
12
13 play_list = tk.Listbox(music_player, font="Helvetica 12 bold", bg="brown", selectmode=tk.SINGLE)
14 for item in song_list:
15     pos = 0
16     play_list.insert(pos, item)
17     pos += 1
18 pygame.init()
19 pygame.mixer.init()
20
21 def play():
22     pygame.mixer.music.load(play_list.get(tk.ACTIVE))
23     var.set(play_list.get(tk.ACTIVE))
24     pygame.mixer.music.play()
25
26 def stop():
27     pygame.mixer.music.stop()
28
29 def pause():
30     pygame.mixer.music.pause()
31
32 def unpause():
33     pygame.mixer.music.unpause()
```

34:123 CRLF UTF-8 4 spaces Python 3.9 (pythonProject) 4:46 PM 12/2/2021

Select Folder

This PC > DATA (D:) > Music

Name	#	Title	Contributing artists	Album
English song				
Top 20 Badshah				
Top 20 Guru Randh...				
Top 20 Raftaar				
Unnamed folder				

Folder:

Select Folder Cancel

```
font="Helvetica 12 bold", text="PLAY", command=play, bg="blue", fg="white")
font="Helvetica 12 bold", text="STOP", command=stop, bg="black", fg="white")
font="Helvetica 12 bold", text="PAUSE", command=pause, bg="purple", fg="white")
font="Helvetica 12 bold", text="UNPAUSE", command=unpause, bg="lgreen", fg="white")
12 bold", textvariable=var)
```

My Music Player

C:\Users\deven\PycharmProjects\pythonProject\venv\Scripts\python.exe C:/Users/deven/Py...
pygame 2.1.0 (SDL 2.0.16, Python 3.9.5)
Hello from the pygame community. <https://www.pygame.org/contribute.html>

PEP 8: E501 line too long (136 > 120 characters) 34:123 CRLF UTF-8 4 spaces Python 3.9 (pythonProject)

• CONCLUSION

The MP3 player is a device for playing and listening to digital audio files, which can be MP3 files or other audio files. The player was created in Python language. A GUI implementation of the application has been developed that is simple and easy to use. The application gives the user five options: add a song to a playlist, play the song, pause or resume the song, play the previous song, and play the next song. The player can also add multiple tracks to the playlist at the same time. It has a large display area in which the playlist is visible. Once a track has been selected and played we can listen to it and view details, the song is at the top of the screen. This information includes details about the song, such as: B. the name of the song, the name of the singer, the length of the song, the file size, etc.

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