

# Software Assignment

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## Code Explanation :

- 1) The import os statement in the code is used to access various operating system-related functionalities. In this particular code, os is used for two purposes:
  - a) The os.listdir(folder path) function is used to retrieve a list of files and directories within the specified folder path. It allows us to iterate over the contents of the folder and check if any files have the ".mp3" extension to build the song playlist.
  - b) The os.path.join(folder path, file) function is used to construct the full file path by joining the folder path and file names. This is done to obtain the complete path of each song file in the playlist.
- 2) In the given code, numpy is used to shuffle the playlist. The np.random.shuffle() function is used to randomly reorder the elements in the self.playlist list. By shuffling the playlist, it ensures that the songs are played in a random order each time without repetitions until all the songs have been played.
- 3) The import tkinter as tk statement in the code is used to import the Tkinter module and assign it an alias of tk. Tkinter is the standard GUI (Graphical User Interface) toolkit for Python and provides a set of built-in modules, classes, and functions to create GUI applications. By importing it as tk, we can conveniently refer to the Tkinter module throughout the code using the tk alias.
- 4) The from tkinter import filedialog statement in the code is used to import the filedialog module from the tkinter package. The filedialog module provides a set of functions that allow the user to interact with the file system, specifically for file and directory selection. In this code, it is used to open a file dialog window to prompt the user to browse and select a folder.
- 5) The import mixer from pygame statement in the code is used to import the mixer module

from the pygame package. The pygame.mixer module provides functionalities for working with sound and music in Pygame. It allows you to load, play, pause, stop, and control audio playback in your application. In this code, the mixer module is used to load and play the selected songs in the playlist. The mixer.init() function initializes the mixer module, and the mixer.music.load(song path) function is used to load the selected song file. Finally, mixer.music.play() is called to start playing the loaded song. By importing mixer from pygame, we can leverage the audio playback capabilities of Pygame to play the selected songs in the music player application.

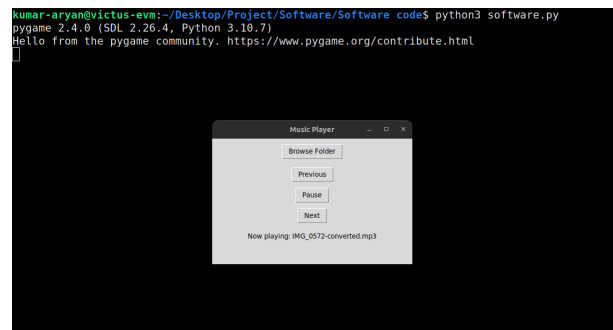


Fig. 5: GUI interface