

# Random Song Shuffler - Code Report

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## 1 Introduction

The Random Song Shuffler is a Python program that plays a collection of audio files in random order. It utilizes a user interface (UI) created using the Tkinter library. This report provides an overview of the code implementation, including details on the steps used to create the random song shuffler and a screenshot of the generated UI.

## 2 Code Overview

The code consists of the following main components:

1. Importing the necessary libraries:
  - `os` library: to interact with the operating system and access the audio files in a directory.
  - `numpy` library: to shuffle the list of audio files.
  - `tkinter` library: to create the UI.
  - `messagebox` module from `tkinter`: to display messages.
  - `playsound` library: to play the audio files.
2. Defining the audio directory:
  - The `audio_directory` variable is set to the path where the audio files are located. This path needs to be updated to the correct directory path.
3. Creating the song shuffler:
  - The code starts by retrieving a list of audio files in the specified directory using the `os.listdir()` function. Only files with ".mp3" or ".wav" extensions are considered.
  - The `numpy.np.shuffle()` function is used to shuffle the list of audio files randomly.

- The `current_song_index` variable keeps track of the currently playing song.
4. Defining the UI:
    - The Tkinter library is used to create a main application window.
    - Three buttons are created: "Play," "Stop," and "Next."
    - Each button is associated with a specific function (`play_song()`, `stop_song()`, and `next_song()`).
  5. Button Functions:
    - The `play_song()` function plays the current song using the `playsound` library. It retrieves the path of the current song based on the `current_song_index`.
    - The `stop_song()` function displays a message box indicating that the song has been stopped.
    - The `next_song()` function increments the `current_song_index` and plays the next song if available. If there are no more songs, a message box displays the end of the playlist.
  6. Running the UI:
    - The `window.mainloop()` function runs the main event loop, allowing the UI to be displayed and interacted with.

### 3 Screenshot of the UI

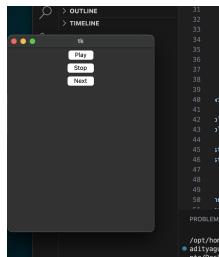


Figure 1: Screenshot of song shuffler

### 4 Conclusion

The Random Song Shuffler is a Python program that uses Tkinter to create a user interface for playing a collection of audio files in random order. This report provided an overview of the code implementation, including a detailed description and a screenshot of the generated UI.