AI-1110: Software Assignment
Random Player

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INTRODUCTION

This report provides an overview of the Random Player program implemented using Python and Pygame library. The program allows users to play a random song from a specified playlist and control the playback using a graphical user interface (GUI).

CODE OVERVIEW

The program consists of the following main components:

- **Import Statements**: The required libraries, including Pygame and tkinter, are imported.
- **File Listing**: The program retrieves a list of audio files from a specified directory using the 'os.listdir()' function.
- **Initialization**: The Pygame mixer is initialized, and the GUI window is created using tkinter.
- **Button Click Functions**: Functions are defined for the Play, Pause, and Next buttons to control the music playback.
- **GUI Layout**: The GUI components, including labels and buttons, are defined and placed in the layout.
- **Music Playback**: A random audio file is selected from the playlist, and Pygame mixer is used to load and play the selected song.
- **Random Selection**: I used randint function in the numpy library to get a random index within the bound of the list. After loading the file with that index I removed theat entry from the list so that it isn't picked again. Once all the songs are played the list becomes empty and it is initialised to the same list again. This process keeps running.

RESULTS AND OBSERVATIONS

After running the Random Player program, the following observations were made:

- The program successfully loaded the audio files from the specified directory and created a playlist.
- The GUI window was displayed with the current song label and three control buttons (Play, Pause, and Next).
- Clicking the Play button resumed the playback of the current song.
- Clicking the Pause button paused the playback of the current song.
- Clicking the Next button stopped the current song, selected a new random song from the playlist, and started playing it.
- When the entire playlist was played once, the program repeated the playlist from the beginning.

CONCLUSION

The Random Player program successfully implemented a random music player with basic playback controls. The program's modular structure allowed easy integration of Pygame and tkinter libraries to provide a graphical user interface for controlling the music playback. Additional features such as volume control, shuffle mode,previous, and playlist management which take only 5-6 lines extra code for each.
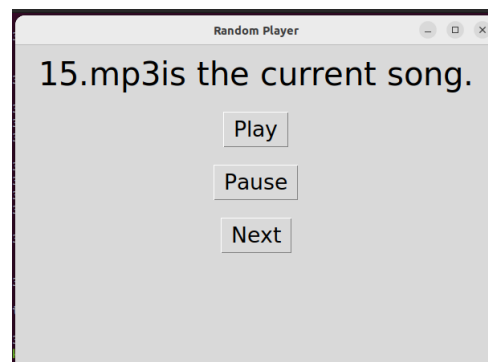

Fig. 0. The GUI for player.