

Software Assignment - Report

AI1110: Probability and Random Variables

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1 INTRODUCTION

This report provides an overview and analysis of the Python code for a music player implemented using Numpy, sys and Pygame Modules. It also includes a random song generation function.

2 CODE EXPLANATION

2.1 Structure of Music Player

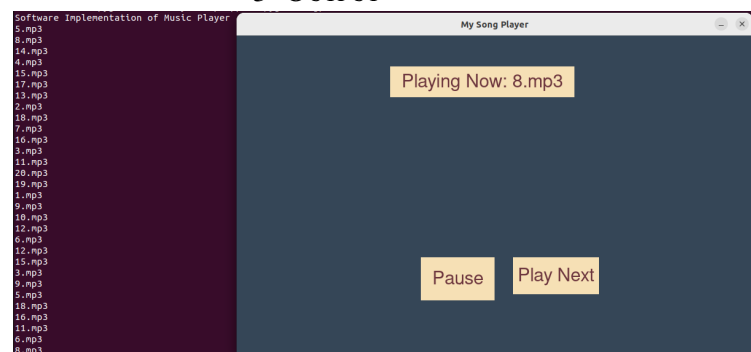
- The code starts by importing the necessary modules: Numpy, sys and Pygame.
- It initializes the Pygame using `pygame.init()`.
- The graphical interface is set up using Pygame. It creates a window and sets the caption with custom background color.
- A button class is defined, which represents the buttons in the interface. Each button has a position, size, color, and text and other click properties.
- The buttons "Pause", "Play Next" and "Resume". These buttons are associated with specific commands to control the music playback using the Pygame mixer functions.
- The program enters a main loop. Inside the loop, The song selection and playing is done. The display is filled with a background color, and the "Playing Now" text is rendered and displayed.
- If the user clicks "Next", a new song is randomly selected and played.
- The program continues in the main loop until the user quits the application by closing the window or exiting the program.

2.2 Randomizing Song Selection

- Inside the loop, a random number is generated to select a song to play.

- The song is loaded using `pygame.mixer.music.load()` and played using `pygame.mixer.music.play()`.
- A separate array called `count` is initialized to keep track of songs which have been played.
- The variable `totalCount` keeps track of the number of songs have to be played more.
- If the song hasn't been played before, it is marked as played, and the count of remaining songs is reduced.
- If the user clicks the "Pause" button, the song is paused using `pygame.mixer.music.pause()`. If the user clicks the "Resume" button, the song is resumed using `pygame.mixer.music.unpause()`.
- The process continues until all the songs have been played once.

3 OUTPUT



4 CONCLUSION

The code provides a basic implementation of a music player using the Numpy and Pygame libraries in Python. It also includes song randomizing feature, adding variety to the playlist.