Creating a GUI to Extract Lyrics from Songs Using Python

Overview

This project demonstrates how to build a graphical user interface (GUI) to extract lyrics from songs using Python. The GUI will allow users to enter the name of a song and its artist, and then fetch the lyrics from an online API.

Requirements

- *Python 3.x*
- *Libraries:* Create a function to fetch lyrics from an online API. For this example, we'll use the Lyrics.ovh API.

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  - `tkinter` *for the GUI*
  - `requests` *for making API calls*
  - `beautifulsoup4` *for parsing HTML (if needed)*

Features

- *User-friendly graphical interface to input song name and artist.*

- *Fetches lyrics from an online source.*
- *Displays the lyrics in the GUI.*

Project Structure

The project consists of a single file:

- `lyrics_extractor_gui.py`

Step-by-Step Implementation

Step 1: Install Required Libraries

First, install the required libraries using pip:

```sh
Copy code
pip install requests beautifulsoup4
```

Step 2: Set Up Lyrics Fetching Function

Explanation of Code

1. ***Import Libraries***:
   - `tkinter` *and* `scrolledtext` *for creating the GUI.*
   - `requests` *for making API calls.*
2. ***Function to Fetch Lyrics***:

- $\circ$ `fetch_lyrics(artist, song)`: *Sends a request to the Lyrics.ovh API to fetch the lyrics for the given artist and song.*

3. **Function to Display Lyrics**:
   - $\circ$ `display_lyrics()`: *Retrieves the artist and song from the input fields, fetches the lyrics using the* `fetch_lyrics` *function, and displays the lyrics in the* `lyrics_display` *text box. Shows error messages if the input is incomplete or the lyrics are not found.*

4. **Set Up GUI**:
   - $\circ$ `root`: *Main window.*
   - $\circ$ `artist_entry`: *Entry widget for the artist name.*
   - $\circ$ `song_entry`: *Entry widget for the song name.*
   - $\circ$ `fetch_button`: *Button to fetch the lyrics.*
   - $\circ$ `lyrics_display`: *Scrolled text widget to display the lyrics.*

Running the Project

5. *Ensure you have Python and the required libraries installed.*
6. *Create a* `lyrics_extractor_gui.py` *file with the provided code.*
7. *Run the script using the command:*

sh

```
Copy code
python lyrics_extractor_gui.py
```

A window with the GUI will appear. Enter the artist name and song name, then click "Fetch Lyrics" to retrieve and display the lyrics.

Conclusion

This project demonstrates how to create a GUI to extract and display song lyrics using Python. By following this guide, you can build a user-friendly application that leverages online APIs to fetch lyrics.