WORK-BREAK PROGRAM WHITEPAPER

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Introduction:

In python programming, there are two very useful modules namely time module and webbrowser module. We can make many interesting applications or task automating scripts using these modules. We are going to make one such script using time and webbrowser modules.

We will make a script for our hard working user who keeps on working for hours and hours without taking breaks. So we are going to make a script which will remind our user to take a break from work after specific time interval and let them relax with the music of their favorite genre.

Problem Statement:

After hours of working on computer, our user feel tired and to feel fresh he/she wants to listen to a song from their favorite genre.

Objective:

Write a program which reminds you take a break after specific time interval and play a video song on YouTube from your favorite genre.

Description:

Take following user inputs:

- Name
- Break Interval in minutes
- Music Preference (Gazal, Rock, Romantic, Jazz, Bhajan, Indie, Classics) Each of the preferences will include at least 3 songs in a list

After Taking inputs from a user such as name, break interval and preference our application will start its operations. After every break interval a random song from user preferred genre will be played automatically. The intent of this application is to relieve our user from work stress up to certain extent.

We will make use of time module and webbrower module. In python, time module is used to handle various operations regarding time such as time() which is used to count the number of seconds elapsed since epoch. Here, in this program we will make use of sleep() function from time module. This sleep() function is used to halt the execution of program for specific time period which is provided in seconds to the function as a parameter.

Another module is webbrowser module, which provides a high-level interface to allow displaying Web-based documents to users. There are various functions in webbrowser module among which we will use open() function to open our webbrowser programmatically. It takes one parameter which is the 'url' which we want to visit.

Code:

```
import time
import webbrowser
from random import randint

name = input("Enter Your Name : ")
print(f"Hi {name}, Please tell us your favorite genre from following :")
links = { "Gazal":['https://www.youtube.com/watch?v=IfqcSo3zOsI',
            'https://www.youtube.com/watch?v=5bLN85bo48s',
            'https://www.youtube.com/watch?v=dDO9ZRSNB9s'],
      "Rock":['https://www.youtube.com/watch?v=eY62RfeviuE',
            'https://www.youtube.com/watch?v=-tJYN-eG1zk',
            'https://www.youtube.com/watch?v=9jK-NcRmVcw'],
      "Romantic":['https://www.youtube.com/watch?v=hjfzFVw2Zjo',
            'https://www.youtube.com/watch?v=43wT0xhvfsA',
            'https://www.youtube.com/watch?v=L7t73qAbkN4'],
      "Jazz":['https://www.youtube.com/watch?v=OOO4ROO_sPM',
            'https://www.youtube.com/watch?v=QN2RnjFHmNY',
            'https://www.youtube.com/watch?v=447yaU_4DF8'],
      "Bhajan":['https://www.youtube.com/watch?v=D9zhvsmDckk',
            'https://www.youtube.com/watch?v=iW16WWmWZL4',
            'https://www.youtube.com/watch?v=PlgIlN5gmQw'],
      "Indie":['https://www.youtube.com/watch?v=gGdGFtwCNBE',
            'https://www.youtube.com/watch?v=pK7egZaT3hs',
            'https://www.youtube.com/watch?v=hTWKbfoikeg'],
      "Classics":['https://www.youtube.com/watch?v=saApSghVCOU',
             'https://www.youtube.com/watch?v=Ti5SNrWxftE',
             'https://www.youtube.com/watch?v=EE9JDSlsH3E'] }

def display_genre():
            for key in links.keys():
                        print(key,end=", ")
display_genre()

genre = input("\nEnter your favorite genre : ")
interval = int(input("Enter time interval in minutes : "))

def generate_random():
 x = randint(0,len(links[genre])-1)
 return x

def convert_to_seconds():
 minutes_to_seconds = interval * 60
 return minutes_to_seconds

seconds = convert_to_seconds()

def my_playlist():
 while True:
  url = links[genre][generate_random()]
  time.sleep(seconds)
  webbrowser.open(url)

my_playlist()
```

Explanation:

Step 1: Import all the required modules for the program execution i.e. time, webbrowser, random module

Step 2: Take name input from user, greet user with welcome message.

Step 3: Store all the YouTube song links in a dictionary as key value pairs. Here song genre will be keys and genre songs will be store inside a list which is value for the genre.

Step 4: Ask user about their favorite genre and time interval between breaks in minutes.

Step 5: use randint() to generate random number between 0 to length of list of songs links. Write a function convert_to_seconds() to convert user's break interval from minutes to seconds.

Step 6: Write a function my_playlist() and use it to open web browser and visit random url from user's favorite genre song after a user defined time interval.

Reference:

Books:

Learn Python the Hard Way
Python Crash Course by Eric Matthes

Websites:

https://www.geeksforgeeks.org
https://docs.python.org

Feedback:

If you have query regarding python then feel free to mail me on my email id mentioned below. Let's see if I can solve your issue. Until then keep learning, keep coding and keep exploring new stuff.

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