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 1 ##
 2 # Hello Welcome to Harmony Source Code, based on pygame,
   tkinter and various other modules.
 3 # Please note the minimum required modules : mutagen,
   pygame, ttkthemes
 4 # To install you must use: "pip install *" as * followed
   by the right module syntax.
 5 # Coded to work on Python 3.8
 6 # Last test on Python 3.8
 7 # Might need some changed for older versions.
 8 # Written by Ayushmaan Karmokar.
 9 ##
10
11 # Code Quality - A++
12 # Last Edited - 2 Feb, 2020
13 # Check my Github on - ***
14
15 # modules
16 import os
17 import threading
18 import time
19 import tkinter.messagebox
20 from tkinter import *
21 from tkinter import filedialog
22
23 from tkinter import ttk
24 from ttkthemes import themed_tk as tk
25
26 from mutagen.mp3 import MP3
27 from pygame import mixer
28
29 root = tk.ThemedTk()
30 root.get_themes()                 # Returns a list of all
   themes that can be set
31 root.set_theme("black")         # Sets an available theme
32
33 # Fonts - Arial (corresponds to Helvetica), Courier New (
   Courier), Comic Sans MS, Fixedsys,
34 # MS Sans Serif, MS Serif, Symbol, System, Times New Roman
    (Times), and Verdana
35 #
36 # Styles - normal, bold, roman, italic, underline, and
   overstrike.
37
38 statusbar = ttk.Label(root, text="Welcome to Harmony (
   nImEHuntetD)", relief=SUNKEN, anchor=W, font='Times 10
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38 italic')
39 statusbar.pack(side=BOTTOM, fill=X)
40
41 # Create the menubar
42 menubar = Menu(root)
43 root.config(menu=menubar)
44
45 # Create the submenu
46
47 subMenu = Menu(menubar, tearoff=0)
48
49 playlist = []
50
51
52 # playlist - contains the full path + filename
53 # playlistbox - contains just the filename
54 # Fullpath + filename is required to play the music inside
    play_music load function
55
56 def browse_file():
57     global filename_path
58     filename_path = filedialog.askopenfilename()
59     add_to_playlist(filename_path)
60     mixer.music.queue(filename_path)
61
62
63 def add_to_playlist(filename):
64     filename = os.path.basename(filename)
65     index = 0
66     playlistbox.insert(index, filename)
67     playlist.insert(index, filename_path)
68     index += 1
69
70 def basic_cleanup():
71     global default_music_add
72     global filename_test
73     default_music_add = "
   copyright_free_music_for_your_ears/Lost Sky - Dreams.mp3"
74     filename_test = default_music_add
75     filename_test = os.path.basename(filename_test)
76     index = 0
77     playlistbox.insert(index, filename_test)
78     playlist.insert(index, default_music_add)
79     index += 1
80     mixer.music.queue(default_music_add)
81
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 82
 83
 84 menubar.add_cascade(label="File", menu=subMenu)
 85 subMenu.add_command(label="Open", command=browse_file)
 86 subMenu.add_command(label="Exit", command=root.destroy)
 87
 88
 89 def about_us():
 90     tkinter.messagebox.showinfo('About Harmony', 'Open
    Source Python Based Music Player by @ayushmaan_karmokar')
 91
 92 def how_to_use():
 93     tkinter.messagebox.showinfo('How to Use!', 'Simple,
    Click on File>Open and choose the song(s) you want to add
    . Alternatively you can also drag and drop. \nSelect the
    music on the left, before using the control buttons. \n
    CHEERS!')
 94
 95
 96 subMenu = Menu(menubar, tearoff=0)
 97 menubar.add_cascade(label="Help", menu=subMenu)
 98 subMenu.add_command(label="About Us", command=about_us)
 99 subMenu.add_command(label="How to Use?", command=
    how_to_use)
100
101 mixer.init()  # initializing the mixer
102
103 root.title("Harmony")
104 root.iconbitmap(r'images/melody.ico')
105
106 # Root Window - StatusBar, LeftFrame, RightFrame
107 # LeftFrame - The listbox (playlist)
108 # RightFrame - TopFrame,MiddleFrame and the BottomFrame
109
110 leftframe = Frame(root)
111 leftframe.pack(side=LEFT, padx=30, pady=30)
112
113 playlistbox = Listbox(leftframe)
114 playlistbox.pack()
115
116 addBtn = ttk.Button(leftframe, text="Add Song(s)",
    command=browse_file)
117 addBtn.pack(side=LEFT)
118
119
120 def del_song():
```

```
121     selected_song = playlistbox.curselection()
122     selected_song = int(selected_song[0])
123     playlistbox.delete(selected_song)
124     playlist.pop(selected_song)
125
126
127 delBtn = ttk.Button(leftframe, text="Del Song", command=
    del_song)
128 delBtn.pack(side=LEFT)
129
130 rightframe = Frame(root)
131 rightframe.pack(pady=30)
132
133 #logoframe = PhotoImage(file='images/logo_big.jpg
    ')              # test do not change yet !
134 #logoframe.pack()
135
136 topframe = Frame(rightframe)
137 topframe.pack()
138
139 '''logoframe = PhotoImage(file='images/logo_big.png')
140 logoframe=Frame(rightframe)
141 logoframe.pack()'''
142
143 lengthlabel = ttk.Label(topframe, text='Total Length
     : --:--')
144 lengthlabel.pack(pady=5)
145
146 currenttimelabel = ttk.Label(topframe, text='Current Time
     : --:--', relief=GROOVE)
147 currenttimelabel.pack()
148
149
150 def show_details(play_song):
151     file_data = os.path.splitext(play_song)
152
153     if file_data[1] == '.mp3':
154         audio = MP3(play_song)
155         total_length = audio.info.length
156     else:
157         a = mixer.Sound(play_song)
158         total_length = a.get_length()
159
160     # div - total_length/60, mod - total_length % 60
161     mins, secs = divmod(total_length, 60)
162     mins = round(mins)
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```
163     secs = round(secs)
164     timeformat = '{:02d}:{:02d}'.format(mins, secs)
165     lengthlabel['text'] = "Total Length" + ' - ' +
    timeformat
166 
167     t1 = threading.Thread(target=start_count, args=(
    total_length,))
168     t1.start()
169 
170 
171 def start_count(t):
172     global paused
173     # mixer.music.get_busy(): - Returns FALSE when we
    press the stop button (music stop playing)
174     # Continue - Ignores all of the statements below it.
    We check if music is paused or not.
175     current_time = 0
176     while current_time <= t and mixer.music.get_busy():
177         if paused:
178             continue
179         else:
180             mins, secs = divmod(current_time, 60)
181             mins = round(mins)
182             secs = round(secs)
183             timeformat = '{:02d}:{:02d}'.format(mins,
    secs)
184             currenttimelabel['text'] = "Current Time" +
    ' - ' + timeformat
185             time.sleep(1)
186             current_time += 1
187 
188 
189 def play_music():
190     global paused
191 
192     if paused:
193         mixer.music.unpause()
194         statusbar['text'] = "Music Resumed"
195         paused = FALSE
196     else:
197         try:
198             stop_music()
199             time.sleep(1)
200             selected_song = playlistbox.curselection()
201             selected_song = int(selected_song[0])
202             play_it = playlist[selected_song]
```

```
203             mixer.music.load(play_it)
204             mixer.music.play()
205             statusbar['text'] = "Playing..>" + ' - ' + os
    .path.basename(play_it)
206             show_details(play_it)
207         except:
208             tkinter.messagebox.showerror('File not found'
    , 'Harmony could not find the file. Please check again.')
209
210
211 def stop_music():
212     mixer.music.stop()
213     statusbar['text'] = "STOP!!"
214
215
216 paused = FALSE
217
218
219 def pause_music():
220     global paused
221     paused = TRUE
222     mixer.music.pause()
223     statusbar['text'] = "Pause..||"
224
225
226 def rewind_music():
227     play_music()
228     statusbar['text'] = "Rewind..<<"
229
230
231 def set_vol(val):
232     volume = float(val) / 100
233     mixer.music.set_volume(volume)
234     # set_volume of mixer takes value only from 0 to 1.
    Example - 0, 0.1,0.55,0.54.0.99,1
235
236
237 muted = FALSE
238
239
240 def mute_music():
241     global muted
242     if muted:  # Unmute the music
243         mixer.music.set_volume(0.7)
244         volumeBtn.configure(image=volumePhoto)
245         scale.set(70)
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```
246         muted = FALSE
247     else:  # mute the music
248         mixer.music.set_volume(0)
249         volumeBtn.configure(image=mutePhoto)
250         scale.set(0)
251         muted = TRUE
252 
253 
254 middleframe = Frame(rightframe)
255 middleframe.pack(pady=30, padx=30)
256 
257 logoframe = PhotoImage(file='images/logo_big.png')
258 logoBtn = ttk.Button(middleframe, image=logoframe)   #
    command=play_music
259 logoBtn.grid(row=0, column=0, padx=10)
260 
261 playPhoto = PhotoImage(file='images/play.png')
262 playBtn = ttk.Button(middleframe, image=playPhoto,
    command=play_music)
263 playBtn.grid(row=0, column=1, padx=10)
264 
265 stopPhoto = PhotoImage(file='images/stop.png')
266 stopBtn = ttk.Button(middleframe, image=stopPhoto,
    command=stop_music)
267 stopBtn.grid(row=0, column=2, padx=10)
268 
269 pausePhoto = PhotoImage(file='images/pause.png')
270 pauseBtn = ttk.Button(middleframe, image=pausePhoto,
    command=pause_music)
271 pauseBtn.grid(row=0, column=3, padx=10)
272 
273 # Bottom Frame for volume, rewind, mute etc.
274 
275 bottomframe = Frame(rightframe)
276 bottomframe.pack()
277 
278 rewindPhoto = PhotoImage(file='images/rewind.png')
279 rewindBtn = ttk.Button(bottomframe, image=rewindPhoto,
    command=rewind_music)
280 rewindBtn.grid(row=0, column=0)
281 
282 mutePhoto = PhotoImage(file='images/mute.png')
283 volumePhoto = PhotoImage(file='images/volume.png')
284 volumeBtn = ttk.Button(bottomframe, image=volumePhoto,
    command=mute_music)
285 volumeBtn.grid(row=0, column=1)
```

```
286
287 scale = ttk.Scale(bottomframe, from_=0, to=100, orient=
    HORIZONTAL, command=set_vol)
288 scale.set(70)  # implement the default value of scale
    when music player starts
289 mixer.music.set_volume(0.7)
290 scale.grid(row=0, column=2, pady=15, padx=30)
291
292
293 def on_closing():
294     stop_music()
295     root.destroy()
296
297
298 # test
299 basic_cleanup()
300
301 root.protocol("WM_DELETE_WINDOW", on_closing)
302 root.mainloop()
303
```