```
#-----------------------------------------------------IMPORT LIBRARIES-----------------------------------------------------

from tkinter import *
import tkinter.font as font
from PIL import Image, ImageTk
import sqlite3
from tkinter import messagebox
import serial
import bluetooth
import sys
import os

#for converting to windows software
def resource_path(relative_path):
    """ Get absolute path to resource, works for dev and for PyInstaller """
    try:
        # PyInstaller creates a temp folder and stores path in _MEIPASS
        base_path = sys._MEIPASS2
    except Exception:
        base_path = os.path.abspath(".")

    return os.path.join(base_path, relative_path)


#-----------------------------------------------REGISTRATION SECTION-------------------------------------------------

#saves the registered values into the database
def register_user():
    name_info=name.get()
    age_info=age.get()
    conn_type_of_devices_info=conn_type_of_devices.get()
    conn_type_of_devices_info_1=conn_type_of_devices_1.get()
    gender_info=gender.get()
    username_info=username.get()
    password_info= password.get()

    #software.db contains registered info
    conn= sqlite3.connect(resource_path("software.db"))
    c=conn.cursor()
    c.execute("INSERT INTO person VALUES('"+name_info+"','"+age_info+"','"+conn_type_of_devices_info+"','"+conn_type_of_devices_info_1+"','"+gender_info+"','"+username_info+"','"+password_info+"')")
    messagebox.showinfo("Information","Your record is saved!")
```

```
42          conn.commit()
43          conn.close()
44          conn= sqlite3.connect(resource_path("user_info.db"))
45          c=conn.cursor()
46          c.execute("INSERT INTO Curr_session(name) VALUES('"+name_info+"')")
47          conn.commit()
48          conn.close()
49
50          name_entry.delete(0,END)
51          age_entry.delete(0,END)
52          conn_devices_entry.deselect()
53          conn_devices_entry1.deselect()
54          gen_entry_m.deselect()
55          gen_entry_f.select()
56          username_entry.delete(0,END)
57          password_entry.delete(0,END)
58
59          Label(screen1,text="Registeration is Successful", fg="green",
            font=("Calibri",11)).pack()
60
61
62      #these functions delete the screen
63      def delete_s1():
64          screen1.destroy()
65
66      #for the registration page
67      def register():
68          global screen1
69          screen1= Toplevel(screen)
70          screen1.title("Register")
71          screen1.geometry("400x650")
72          screen1.configure(bg="#FFFEF2")
73
74          global name
75          global age
76          global conn_type_of_devices
77          global conn_type_of_devices_1
78          global gender
79          global username
80          global password
81
82          global name_entry
83          global age_entry
84          global conn_devices_entry
85          global conn_devices_entry1
```

```
86      global gen_entry_m
87      global gen_entry_f
88      global username_entry
89      global password_entry
90
91      name=StringVar()
92      age=StringVar()
93      conn_type_of_devices=StringVar()
94      conn_type_of_devices_1=StringVar()
95      gender=StringVar()
96      username= StringVar()
97      password= StringVar()
98
99      Label(screen1, text="Please Enter details below
        ",width="400",height="3",bg="#caf0f8", font=("Times",16)).pack()
100
101     Label(screen1, text="",bg="#FFFEF2").pack()
102
103     Label(screen1, text="Enter Name",font=("Times",13),bg="#FFFEF2").pack()
104
105     name_entry= Entry(screen1,textvariable=name, width=30)
106     name_entry.pack()
107
108     Label(screen1, text="Enter Age",font=("Times",13),bg="#FFFEF2").pack()
109
110     age_entry= Entry(screen1,textvariable=age, width=30)
111     age_entry.pack()
112
113     Label(screen1, text="Select types of
        connection",font=("Times",13),bg="#FFFEF2").pack()
114
115     conn_devices_entry= Checkbutton(screen1,
        text="Wifi",variable=conn_type_of_devices,bg="#FFFEF2")
116     conn_devices_entry.deselect()
117     conn_devices_entry.pack()
118
119     conn_devices_entry1= Checkbutton(screen1,
        text="Bluetooth",variable=conn_type_of_devices_1,bg="#FFFEF2")
120     conn_devices_entry1.deselect()
121     conn_devices_entry1.pack()
122
123     Label(screen1, text="Select gender",font=("Times",13),bg="#FFFEF2").pack()
124
125     gen_entry_m= Radiobutton(screen1, text="Male",variable=gender,
        value="Male",bg="#FFFEF2")
```

```
126         gen_entry_m.deselect()
127         gen_entry_m.pack()
128 
129         gen_entry_f= Radiobutton(screen1, text="Female",variable=gender,
            value="Female",bg="#FFFEF2")
130         gen_entry_f.select()
131         gen_entry_f.pack()
132 
133         Label(screen1, text="",bg="#FFFEF2").pack()
134         Label(screen1, text="Enter Username",font=("Times",13),bg="#FFFEF2").pack()
135 
136         username_entry= Entry(screen1,textvariable=username, width=30)
137         username_entry.pack()
138 
139         Label(screen1,text="Enter Password",font=("Times",13),bg="#FFFEF2").pack()
140 
141         password_entry= Entry(screen1,textvariable=password,width=30)
142         password_entry.pack()
143 
144 
145         Label(screen1,text="",bg="#FFFEF2").pack()
146         Button(screen1, text="Register",bg="#d1ffea",height=2, width= 20, command=
            register_user).pack()
147 
148         Label(screen1,text="",bg="#FFFEF2").pack()
149         Button(screen1, text="Direct to Login Page",bg="#d1ffea",height=2, width= 20,
            command= login).pack()
150 
151         Label(screen1,text="",bg="#FFFEF2").pack()
152         Button(screen1,text="Close window",bg="#ffcccb",height=2, width= 20,
            command=delete_s1).pack()
153 
154 
155     #-----------------------------------------------------------DASHBOARD-----------------
    ------------------------------------------------------
156 
157     #these functions delete the screens
158     def delete_s4():
159         screen4.destroy()
160     def delete_s5():
161         screen5.destroy()
162     def delete_s8():
163         screen8.destroy()
164     def delete_s9():
165         screen9.destroy()
```

```
166
167 '''
168 #not fully complete
169 #purpose- saving the bluetooth info to new database
170
171 def save_info():
172     conn= sqlite3.connect(resource_path("user_info.db"))
173     c=conn.cursor()
174     # c.execute("INSERT INTO Curr_session(bluetooth_name, bluetooth_address)
        VALUES('"+addr+"','"+name+"')")
175
176     c.execute("UPDATE Curr_session SET bluetooth_name='"+addr+"',
        bluetooth_address='"+name+"' WHERE name='"+username1+"'")
177     # messagebox.showinfo("Information","Your record is saved!")
178     conn.commit()
179     conn.close()
180     conn= sqlite3.connect(resource_path("user_info.db"))
181     c=conn.cursor()
182     c.execute("SELECT * FROM Curr_session")
183     r=c.fetchall()
184     for i in r:
185         print(i)
186     # messagebox.showinfo("Information","Your record is saved!")
187     conn.commit()
188     conn.close()
189 '''
190
191 #Scanning nearby bluetooth devices
192
193 def button_clicked1():
194     # print("success")
195     # Label(screen9,text="hi").pack()
196
197     #print("Scanning")
198     Label(screen9,text="Scanning",width="400",height="3",
        font=("Times",13,"bold")).pack()
199
200     nearby_devices = bluetooth.discover_devices(lookup_names=True)
201
202     #print("Found {} devices.".format(len(nearby_devices)))
203     Label(screen9,text="Found {}
        devices.".format(len(nearby_devices)),width="400",height="3",
        font=("Times",11,"bold")).pack()
204
205     for addr, name in nearby_devices:
```

```
206             #print("  {} - {}".format(addr, name))
207             Label(screen9,text="  {} - {}".format(addr, name),width="400",height="3",
                font=("Times",12,"bold")).pack()
208
209
210     #Scan devices page
211
212     def scan_devices():
213         global screen9
214         screen9=Toplevel(screen)
215         screen9.title("Scanning for nearby Bluetooth devices")
216         screen9.geometry("400x500")
217         Label(screen9,text="Nearby Bluetooth devices",font=("Times",16)).pack()
218         Label(screen9,text="").pack()
219         Button(screen9,text="Scan Devices", height=1, width= 30,
            bg="#0077b6",font=("Times",13,"bold"), command=button_clicked1).pack()
220         # Button(screen9,text="Save", height=1, width= 30,
            bg="#CD5C5C",font=("Times",11,"bold"),command=save_info()).pack()
221         #Label(screen9,text="hi").pack()
222         #Label(screen9,text="").pack()
223         Button(screen9,text="Exit", height=1, width= 30,
            bg="#CD5C5C",font=("Times",13,"bold"),command=delete_s9).pack(side=BOTTOM)
224
225
226
227     #Page for Dashboard
228
229     def session():
230         # delete_s()
231         delete_s2()
232         global screen8
233         screen8= Toplevel(screen)
234
235         screen8.title("Dashboard")
236         screen8.geometry("400x400")
237         Label(screen8, text="Welcome to the Dashboard",font=("Times",16)).pack()
238
239         Button(screen8,text="Sign out",bg="#ffcccb",command=delete_s8).place(x=340,y=10)
240
241         conn= sqlite3.connect(resource_path("software.db"))
242         c1=conn.cursor()
243         c1.execute("SELECT name,gender FROM person WHERE username='"+username1+"'")
244         r1=c1.fetchall()
245
246         for i in r1:
```

```
247             print(i[0])
248             print(i[1])
249             if(i[1]=="Female"):
250                 Label(screen8,text="Hello! Ms. {}".format(i[0]),font=("Times",14)).pack()
251                 # print("Ms. {}".format(i[0]))
252             else:
253                 Label(screen8,text="Hello! Mr. {}".format(i[0]),font=("Times",14)).pack()
254                 # print("Mr. {}".format(i[0]))
255 
256         conn.commit()
257         conn.close()
258 
259         Label(screen8,text="").pack()
260         Button(screen8,text="Your Saved Devices",width=20,height=2,bg="#d1ffea").pack()
261 
262         Label(screen8,text="").pack()
263         Button(screen8,text="Scan Nearby
    Devices",width=20,height=2,bg="#d1ffea",command=scan_devices).pack()
264 
265 
266     #-----------------------------------------------------------LOGIN
    SECTION---------------------------------------------------------------
267 
268     #if login is successful
269     def login_success():
270         session()
271 
272     #if passwoord is not recognised
273     def password_not_recognized():
274         global screen4
275         screen4 = Toplevel(screen)
276         screen4.title("Failed")
277         screen4.geometry("150x100")
278         screen4.configure(bg="#ffcccb")
279         Label(screen4,text="",bg="#ffcccb").pack()
280         Label(screen4, text="Incorrect password",bg="#ffcccb",font=("Times",13)).pack()
281         Button(screen4,text="Try again",bg="#ff6863",command=delete_s4).pack()
282 
283     #to allow to go to registration page
284     def direct_register():
285         register()
286         delete_s5()
287 
288     #if user is not found
289     def user_not_found():
```

```
290         global screen5
291         screen5 = Toplevel(screen)
292         screen5.title("Failed")
293         screen5.geometry("150x150")
294         screen5.configure(bg="#ffdcd1")
295         Label(screen5, text="User not found!",bg="#ffdcd1",font=("Times",13)).pack()
296         Button(screen5,text="Try again",bg="#ff6863",command=delete_s5).pack()
297         Label(screen5,text="",bg="#ffdcd1").pack()
298         Button(screen5,text="Register new
            user",bg="#d1ffea",command=direct_register).pack()
299
300
301     #to check whether login credentials are correct or not
302     def login_verify():
303         global username1
304         global password1
305         username1=username_verify.get()
306         password1=password_verify.get()
307         usernamee_entry1.delete(0,END)
308         password_entry1.delete(0,END)
309
310
311         conn= sqlite3.connect(resource_path("software.db"))
312         c=conn.cursor()
313         c.execute("SELECT username,password FROM person")
314         r=c.fetchall()
315
316         user_list=[]
317         pass_list=[]
318         for i in r:
319             user_list.append(i[0])
320             pass_list.append(i[1])
321         print(user_list)
322         print(pass_list)
323         for i in range(len(user_list)):
324             if(username1 in user_list):
325                 if(password1 in pass_list):
326                     idx=user_list.index(username1)
327                     if(pass_list[idx]==password1):
328                         # print("YES")
329                         login_success()
330                         break
331                     else:
332                         # print("Incorrect Password")
333                         messagebox.askretrycancel("Try Again","Password Incorrect")
```

```
                    break
            else:
                # print("incorrect password")
                messagebox.askretrycancel("Try Again","Password Incorrect")
                break
        else:
            # print("User Not Found")
            user_not_found()
            break

    conn.commit()
    conn.close()


def delete_s2():
    screen2.destroy()

#The login page
def login():
    print("Login session started")
    global screen2
    screen2=Toplevel(screen)
    # screen2=Tk()
    screen2.title("Login page")
    screen2.geometry("400x350")
    screen2.configure(bg="#E5F6DF")
    Label(screen2,text="Please enter details below to login",width="400",height="3",bg="#b6e9f2", font=("Times",16)).pack()
    Label(screen2,text="",bg="#E5F6DF").pack()

    global username_verify
    global password_verify
    username_verify= StringVar()
    password_verify=StringVar()
    Label(screen2,text="Enter your registered Username",font=("Times",13),bg="#E5F6DF").pack()
    global usernamee_entry1
    global password_entry1
    usernamee_entry1= Entry(screen2, textvariable=username_verify,width=30)
    usernamee_entry1.pack()
    Label(screen2,text="Enter your Password",font=("Times",13),bg="#E5F6DF").pack()
    password_entry1=Entry(screen2,textvariable=password_verify, show="*",width=30)
    password_entry1.pack()
    Label(screen2,text="",bg="#E5F6DF").pack()
    Button(screen2,text="Login",width=20,height=2,
```

```
    command=login_verify,bg="#d1ffea").pack()
377     Label(screen2,text="",bg="#E5F6DF").pack()
378     Button(screen2,text="Close window",bg="#ffcccb",height=2, width= 20,
        command=delete_s2).pack()
379
380
381 #---------------------------------------------------------MAIN
    SCREEN-------------------------------------------------------------------
382
383 def main_screen():
384
385     global screen
386     screen=Tk()
387     screen.geometry("400x400")
388     screen.minsize(400,400)
389     screen.maxsize(400,400)
390
391     #QUERIES to create databases(implemented for only once)
392     # conn= sqlite3.connect("software.db")
393     # c=conn.cursor()
394     # c.execute("CREATE TABLE person(name TEXT, age INT, conn_type TEXT,
        conn_type_other TEXT, gender TEXT, username TEXT, password TEXT)")
395     # conn.commit()
396     # conn.close()
397     # conn= sqlite3.connect("user_info.db")
398     # c=conn.cursor()
399     # c.execute("CREATE TABLE Curr_session(name TEXT, bluetooth_name TEXT,
        bluetooth_address TEXT)")
400     # conn.commit()
401     # conn.close()
402
403     screen.title("Sign up/ Login page")
404     screen.configure(bg="#caf0f8")
405     Label(text="Sign up/ Log in",width="400",height="3", fg="#caf0f8",bg="#04035e",
        font=("Times",16,"bold")).pack()
406     photo = PhotoImage(file=resource_path("image.png"), width="400", height="150")
407     new=Label(image=photo)
408     new.pack()
409     Label(text="",bg="#caf0f8").pack()
410     Button(text="Login", height=1, width= 30, bg="#0077b6",font=("Times",13,"bold"),
        command=login).pack()
411     Label(text="",bg="#caf0f8").pack()
412     Button(text="Register", height=1, width=
        30,bg="#0077b6",font=("Times",13,"bold"), command=register).pack()
413     Label(text="",bg="#caf0f8").pack()
```

```
414     Button(text="Quit", height=1, width= 30,bg="#0077b6",font=("Times",13,"bold"),
        command=lambda: screen.quit()).pack()
415     screen.mainloop()
416
417 main_screen()
418
```