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BSCS – C204

Final Lab Task 4:

Finals Lab Task 4. Python GUI using TKINTER

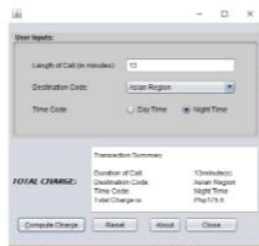
Note: Write your code following **OOP code construct**, you may use the attached simpleCalc.py program as guide.

Instructions: READ AND UNDERSTAND THE PROBLEM FIRST BEFORE DOING THE ACTUAL PROGRAM.

1. Design the form below
2. Problem Statement: The cost of a long Distance call is based on the destination, the time of day the call was made, as well as the duration of the call. The rates are as follows:

DAYTIME CALLS		NIGHTTIME CALLS	
1. American Region	P 50 every 3 minutes	1. American Region	P 45 every 3 minutes
2. Asian Region	P 30 every 2 minutes	2. Asian Region	P 27 every 3 minutes
3. African Region	P 40 every 3 minutes	3. African Region	P 36 every 3 minutes
4. European Region	P 35 every 2 minutes	4. European Region	P 30 every 2 minutes

3. Make a program that will Allow the user to Select Destination Code (between 1 – 4) using ComboBox widget, A Time Code using radio buttons, And the Duration Of The Call in minutes and output the **TOTAL CHARGE**. – Validate user inputs by using TRY EXCEPT block – Only numeric values are accepted.
4. Compute Button should compute for the **TOTAL CHARGE**.
 - 4.1 Computations should be based on the table rates shown above. (The total charge is based on Length of Calls, Destination Code and Time Code)
 - 4.2. You may use the get () method of the comboBox to capture the selected option in your comboBox
5. Reset Button should clear the Radio Button Selection and the Text field entries should be cleared as well
6. About button should display a dialog with the message: "Hello I'm your Name"
7. See sample output below:



Code:

```
import tkinter as tk
from tkinter import ttk, messagebox

# Usage
class LongDistanceCallGUI:

    def __init__(self, master):
        self.master = master
        self.master.title("Long Distance Call Charge Calculator")
        self.master.geometry("400x320")
        self.master.configure(bg="#e0e0e0")

        # --- COLOR PALETTE ---
        self.primary = "#1d3d59"
        self.secondary = "#f5f5f5"
        self.accent = "#ff5722"
        self.light = "#ffffff"

        # Data tables (rate, minutes_per_unit)
        self.day_rates = {
            "American Region": (50, 3),
            "Asian Region": (30, 2),
            "African Region": (40, 3),
            "European Region": (35, 2),
        }

        self.night_rates = {
            "American Region": (45, 3),
            "Asian Region": (27, 2),
            "African Region": (36, 3),
            "European Region": (30, 2),
        }

        self.build_interface()

    # ----- Interface -----
    # Usage
    def build_interface(self):

        # HEADER
        header = tk.Label(
            self.master,
            text="LONG DISTANCE CALL CHARGE COMPUTATION",
            font=("Arial Black", 10),
            bg=self.primary,
            fg="white",
            pady=10
        )
        header.pack(fill="x")

        # INPUT FRAME
        frame = tk.LabelFrame(
            self.master,
            text="User Inputs",
            bg=self.secondary,
            padding=15,
            borderwidth=1,
            bordercolor="black"
        )
        frame.pack(fill="x", padx=20, pady=15)

        # Minutes input
        tk.Label(frame, text="Length of Call (minutes):", bg=self.secondary).grid(row=0, column=0, sticky="w")
        self.txt_minutes = tk.Entry(frame, width=25)
        self.txt_minutes.grid(row=0, column=1, pady=5)

        # Destination combobox
        tk.Label(frame, text="Destination Region:", bg=self.secondary).grid(row=1, column=0, sticky="w")
        self.cbo_dest = ttk.Combobox(frame, width=21, state="readonly")
        self.cbo_dest["values"] = list(self.day_rates.keys())
        self.cbo_dest.current(0)
        self.cbo_dest.grid(row=1, column=1, pady=5)

        # Time code radio
        tk.Label(frame, text="Rate Time:", bg=self.secondary).grid(row=2, column=0, sticky="w")
        self.day_time = tk.Radiobutton(frame, text="Day Time", bg=self.secondary, value="Day Time")
        self.night_time = tk.Radiobutton(frame, text="Night Time", bg=self.secondary, value="Night Time")
        self.day_time.grid(row=2, column=1, sticky="w")
        self.night_time.grid(row=2, column=2, sticky="w")

        # Transaction Summary
        summary = tk.LabelFrame(
            self.master,
            text="Transaction Summary",
            bg=self.secondary,
            padding=10,
            borderwidth=1,
            bordercolor="black"
        )
        summary.pack(fill="x", padx=20, pady=15)

        tk.Label(summary, text="Duration of Call", bg=self.secondary).grid(row=0, column=0, sticky="w")
        tk.Label(summary, text="Destination Code", bg=self.secondary).grid(row=0, column=1, sticky="w")
        tk.Label(summary, text="Time Code", bg=self.secondary).grid(row=0, column=2, sticky="w")
        tk.Label(summary, text="Total Charge", bg=self.secondary).grid(row=0, column=3, sticky="w")

        # Buttons
        compute = tk.Button(self.master, text="Compute Charge", bg=self.accent, fg="white", width=15)
        reset = tk.Button(self.master, text="Reset", bg=self.accent, fg="white", width=15)
        about = tk.Button(self.master, text="About", bg=self.accent, fg="white", width=15)
        close = tk.Button(self.master, text="Close", bg=self.accent, fg="white", width=15)

        compute.grid(row=3, column=0, sticky="w")
        reset.grid(row=3, column=1, sticky="w")
        about.grid(row=3, column=2, sticky="w")
        close.grid(row=3, column=3, sticky="w")
```

```

76 self.time_var = tk.StringVar(value="Day")
77
78 rad_day = tk.Radiobutton(frame, text="Day Time", variable=self.time_var, value="Day", bg=self.secondary)
79 rad_night = tk.Radiobutton(frame, text="Night Time", variable=self.time_var, value="Night", bg=self.secondary)
80
81 rad_day.grid(row=2, column=1, sticky="e")
82 rad_night.grid(row=2, column=1, sticky="e")
83
84 # OUTPUT FRAME
85 out_frame = tk.LabelFrame(
86     self.master,
87     text="Transaction Summary",
88     padx=15,
89     pady=15,
90     bg=self.light,
91     font=("Arial", 11, "bold"),
92     fg=self.primary
93 )
94 out_frame.pack(fill="both", padx=20, pady=10)
95
96 self.txt_output = tk.Text(out_frame, height=10, width=70, bg="#f0f0f0", relief="sunken")
97 self.txt_output.pack()
98
99 # BUTTON FRAME
100 btn_frame = tk.Frame(self.master, bg="#d0d0d0")
101 btn_frame.pack(pady=15)
102
103 # Styled Buttons
104 def hover_in(e): e.widget.config(bg=self.accent, fg="white")
105 def hover_out(e): e.widget.config(bg=self.primary, fg="white")
106
107
108 # Display output
109 self.txt_output.delete(1.0, tk.END)
110 self.txt_output.insert(tk.END, f"Duration of Call:\t(minutes) minutes\n")
111 self.txt_output.insert(tk.END, f"Destination Region:\t(destination)\n")
112 self.txt_output.insert(tk.END, f"Rate Time:\t(time_code) Time\n")
113 self.txt_output.insert(tk.END, f"Total Charge:\tPhp (round(total_charge, 2))")
114
115
116 # Logic
117 def reset(self):
118     self.txt_minutes.delete(1.0, tk.END)
119     self.cbo_dest.current(0)
120     self.time_var.set("Day")
121     self.txt_output.delete(1.0, tk.END)
122
123
124 # Logic
125 def about(self):
126     messagebox.showinfo("Info", "About", message="Long Distance Call Calculator\nCreated by: Mike")
127
128
129 # ----- MAIN -----
130 root = tk.Tk()
131 app = LongDistanceCallGUI(root)
132 root.mainloop()
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