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from tkinter import *
from PIL import Image, ImageDraw, ImageTk, ImageFont
from timeit import default_timer as timer
import random
import threading
import datetime

PREGUNTAS_TOTALES = 100
TIEMPO_ENTRE_PREGUNTAS = 300

def generateCoords(points, w, h):
    results = []
    for i in range(points):
        while True:
            xs = random.randint(10, w-10)
            ys = random.randint(10, h-10)
            coord = (xs, ys)
            if coord not in results:
                results.append(coord)
                break
    return results

def generateImage(points, d=3):
    i = Image.new("RGB", (500, 500), "coral")
    draw = ImageDraw.Draw(i)
    w, h = i.size
    centers = generateCoords(points, w, h)
    for c in centers:
        draw.ellipse((c[0]-3, c[1]-3, c[0]+3, c[1]+3), fill="#800080")
    return i

def generateSplash():
    i = Image.new("RGB", (500, 500), "white")
    d = ImageDraw.Draw(i)
    font = ImageFont.truetype("arial.ttf", 12)
    d.multiline_text((10, 10), "EXPERIMENTO PUNTOS\n 1.A CONTINUACIÓN, SE
MOSTRARÁN 100 IMAGENES QUE CONTENDRÁN\n ENTRE 38 Y 42 PUNTOS\n 2. ANTES DE
CADA IMAGEN DE PUNTOS,\n SE MOSTRARA EL INCENTIVO QUE USTED TIENE PARA\n VER
QUE TANTO ESFUERZO LE SUGIERE CONTAR LOS PUNTOS\n 3. USTED TIENE 5 OPCIONES
PARA DECIDIR\n LA RESPUESTA CORRECTA.", font=font, fill=(0, 0, 0)) #LE PONE
UNA IMAGEN CON EL TEXTO SOBRE LA IMAGEN
    return i

def generateIncentive(incentive):
    i = Image.new("RGB", (500, 500), "white")
    d = ImageDraw.Draw(i)
    font = ImageFont.truetype("arial.ttf", 50)

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font2 = ImageFont.truetype("arial.ttf", 120)
d.multiline_text((10, 10), "Puntos", font=font, fill=(0, 0, 0))
d.multiline_text((200, 200), str(incentive), font=font2, fill=(0, 0, 0))
return i
def generateEnding():
    i = Image.new("RGB", (500, 500), "white")
    d = ImageDraw.Draw(i)
    font = ImageFont.truetype("arial.ttf", 15)
    font2 = ImageFont.truetype("arial.ttf", 20)
    d.multiline_text((10, 10), "Resultados", font=font, fill=(0, 0, 0))
    d.multiline_text((50, 100), "Preguntas correctas: " + str(RAnswerC) + "/" + str(TotPreguntas), font=font2, fill=(0, 0, 0))
    d.multiline_text((50, 200), "Puntos obtenidos: " + str(TotPoints), font=font2, fill=(0, 0, 0))
    d.multiline_text((50, 300), "Tiempo total: " + str(datetime.timedelta(seconds=int(endTime)-int(startTime))), font=font2, fill=(0, 0, 0))
    return i
def nextIm(btn):
    global gamestate
    global NPregunta
    global startTime
    global ans
    global TotPoints
    global RAnswerC
    global endTime
    if gamestate!="init" and btn == ans:
        TotPoints += incentives[NPregunta - 1]
        RAnswerC += 1
        NPregunta += 1
    if NPregunta == TotPreguntas+1:
        btn1.configure(state=DISABLED)
        btn2.configure(state=DISABLED)
        btn3.configure(state=DISABLED)
        btn4.configure(state=DISABLED)
        btn5.configure(state=DISABLED)
        endTime = timer()
        drawEnding()
    else:
        if gamestate=="init":
            gamestate="started"
            startTime=timer()

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        btn1.configure(state=DISABLED, text="    38    ")
        btn2.configure(state=DISABLED, text="    39    ")
        btn3.configure(state=DISABLED, text="    40    ")
        btn4.configure(state=DISABLED, text="    41    ")
        btn5.configure(state=DISABLED, text="    42    ")
        ans = random.randint(38, 42)
        thread = threading.Thread(target=drawPoints)
        thread.start()
        window.after(TIEMPO_ENTRE_PREGUNTAS, drawChallenge, ans)
def drawPoints():
    newI = ImageTk.PhotoImage(generateIncentive(incentives[NPregunta -
1]))
    lb.configure(image=newI)
    lb.image = newI
    lb2.configure(text="Pregunta " + str(NPregunta) + " de " +
str(TotPreguntas))
    lb4.configure(text="Incentivo: " + str(incentives[NPregunta - 1]))
    btn1.configure(state=DISABLED, text="    38    ")
    btn2.configure(state=DISABLED, text="    39    ")
    btn3.configure(state=DISABLED, text="    40    ")
    btn4.configure(state=DISABLED, text="    41    ")
    btn5.configure(state=DISABLED, text="    42    ")
def drawChallenge(ans):
    newI = ImageTk.PhotoImage(generateImage(ans))
    lb.configure(image=newI)
    lb.image = newI
    btn1.configure(state=NORMAL)
    btn2.configure(state=NORMAL)
    btn3.configure(state=NORMAL)
    btn4.configure(state=NORMAL)
    btn5.configure(state=NORMAL)
def drawEnding():
    newI = ImageTk.PhotoImage(generateEnding())
    lb.configure(image=newI)
    lb.image = newI
    btn1.configure(state=DISABLED)
    btn2.configure(state=DISABLED)
    btn3.configure(state=DISABLED)
    btn4.configure(state=DISABLED)
    btn5.configure(state=DISABLED)
TotPoints = 0
RAnswerC = 0
TotPreguntas = PREGUNTAS_TOTALES
incentives = random.sample(range(1,TotPreguntas+1), TotPreguntas)
startTime = None

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endTime = None
ans = None
window=Tk()
gamestate = "init"  #
NPregunta = 0
window.title('Hello Python')
window.geometry("700x700+10+10")

i = generateSplash()
tkimage = ImageTk.PhotoImage(i)
lb = Label(window, image=tkimage)
lb.grid(row=0, column=0, columnspan=5, rowspan=4)
lb2 = Label(window, text="Pregunta n de N")
lb2.grid(row=0,column=5)
lb4 = Label(window, text="Incentivo: X")
lb4.grid(row=1,column=5)

btn1 = Button(window, text='Opcion 1', command=lambda: nextIm(38),
state=DISABLED)
btn1.grid(row=4, column=0)
btn2 = Button(window, text='Opcion 2', command=lambda: nextIm(39),
state=DISABLED)
btn2.grid(row=4, column=1)
btn3 = Button(window, text='Opcion 3', command=lambda: nextIm(40),
state=DISABLED)
btn3.grid(row=4, column=2)
btn4 = Button(window, text='Opcion 4', command=lambda: nextIm(41),
state=DISABLED)
btn4.grid(row=4, column=3)
btn5 = Button(window, text='COMENZAR', command=lambda: nextIm(42),
state=NORMAL)
btn5.grid(row=4, column=4)
window.mainloop()

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