Create GUI App With Tkinter

Internet Download Speed Test python project

Hello everybody this is Awoke from learn to code.

In this video, we will create a fully functional mobile GUI app by using the Tkinter Python module

By using the Tkinter python module we can create a fully functional app that can check our internet download speed.

Ok to start this GUI App first I create a new folder and store some important files like the logo and icon for our app.

Now I can start this project by opening PyCharm python ide.

You can also use PyCharm or you can use your favorite python ide.

For me I want to use PyCharm.

Ok, now I open it and

Start by creating new file.

For that I click file at the top and click new

And then click python file.

Like this

And

It asks me to give the file name

And I give the name

internet download speed test.

And, hit inter

As you see

It creates a blank new document like this.

Ok, now we can start writing a code inside this blank PyCharm python file.

So, the first thing is importing

Tkinter python module

For that, I write

Import Tkinter as tk

By the way, this Tkinter python module is a built-In module you don’t need to install it

The only thing which is expected from you is importing to your project by using the import keyword.

After that, you need to create a GUI window

For that

Root = tk.TK()

This code helps to create a window

And also

If you run this file

As you see nothing happens

Or it doesn’t show the Tkinter GUI window

For that you need to write another code

Root

Dot

Mainloop()

Like this

Now I run this file again and as you see is shows the window

And nothing is shown in the window and the window size is almost very small

So, firstly I will increase the size of this window

And, anything you need to apply in this window, you need to write

Inside this

Root = tk.TK()

And

Root.main loop() functions

You need to write between them.

So, to incrize the size of our GUI Window

I write

Root.geometry()

And I give the size

For the x part I give almost 300 and for the y part 450

So this

Root.geometry(300 X450)

Will increase our window size

When I run this as you see it increses the size of the window

And

You can also increase the size of the window by enlarging

That means when you click for this direction and you drag it

It increases the size. For bothe the x and y direction. As you see

You can drag to both sides to incresea the size.

However for this app I don’t need it

I want to have a fixed size

For that

I write

Root. Resizable()

Function and

I will pass 0, 0

For both x and y direction

And when I run it and

I check

As you see it becomes

Non resizable.

Ok, now we move to the next part of this app

For that

When you see the title of the app

It says tk. By default

For that I want to give the title

For that

I write

Root.title()

And

I give the title

Internet download speed

Now I run this and as you see the title is changed.

And the next point is

When you see the icon of this app

It takes the tkinter icon by default

For that

I change it

To change the icon you need to have icon or you can search any icon on google and download it

So, I already have download the icon

For that

I write.

Root.icon bit map()

And inside this parentessis

I pass my icon file name.

So, my icon file name is

Robot icon .ico

Like this

For me I write only my icon file name because

My icon file and this python project file are in the same folder.

However, if your python file and your icon file are in different folder’s you need to write the full file path.

Ok, when I run this

As you see the app icon is changed perfectly.

So, as you see in this app we resize the app and also we change the title and icon of the app

The next point is

I want to add my app logo in this window

For that

I alredy have a robot logo

Inside this folder and

To add this logo

I need to import onother important python library

Which helps us to open images.

Because my logo is an image for that

I write

To import PIL

From PIL import

Image, and Image TK

Like this

However, if you are the first time to use this python module you need to install it

For that you can use PyCharm

At the bottom of PyCharm you can click this terminal section and you can write

Pip install pillow

Like this and you hit inter

It starts download and install it automatically to your python interpreter and

After that you can import by writing

From PIL import Image and Image TK

Ok, after we import those python modules

Now we can import the logo of this app

For that

I write

Logo = image.open()

I use this function and

I pass my logo file name

For that

My logo file name is

B robot.png

File

This is my logo file name

And also my logo file name and this python file are in the same folder

That is why I write only the file name of my logo.

ok

the next is

I also write

Logo = Image TK

. dot photo image function and I pass

The first logo

And when I run this file

As you see

It doesn’t show the logo

For that

I need to crate

A label for that

Logo _lable

I name it like this and

Logo_Lable = tk.Label()

And I pass

image=logo

like this and

also

logo_label.image = logo

after that I pack this label to the window

for that

logo_label.pack()

like this and when I run this

as you see

the logo is added to the app

look at this logo

it is almost at the center of this app

so, it looks good and I live as it is.

ok,

then next is creating the app wadeites to display the texts

for that

I create another label called new label

New_label = tk.Label()

And inside this I pass

Root,

Text = Test Download Speed

Font (Areal, the font size is almost I give 18 and it be bold)

And for the forground color

Fg = green

And when I run this it dosent show the label for that

Weneed to pack this lable to disply on this window

For that

I write

New_label.pack()

And now when I see the app is displays perfectly.

And also, I want to add the paddings for this label

For that, I add pad x = 20 and pad y = 20

Inside this pack () function.

So, this pad x and pad y helps to create the space for this label.

Ok, now we can move to create the buttons for checking the internet download speed

When we come to creating the buttons, I need two buttons for this app

The first button is for checking the download speed

And

The 2nd button is for exiting the app after I check the download speed

For that I need to create 2 buttons.

For the first button

I call it button 1

And

Button1 = tk.Button()

And inside this I will pass

Root,

Text = check I want to display this check for checking the internet speed test.

And the font

Font= (areal and font size 20)

And to display this button on the window

We need to pack them

For that

Button1.pack()

And inside this pack

I will give the padding for the buttons.

Pad x = 20 and pad y = 10

And when I run this app

As you see the first button is displayed on our app.

Like that we can add the 2nd button like this one

For that

I

Write

Button 2 =

Tk.Button()

And I pass

Root,

Text = Exit

And the font

Font = (areal, and font size 20)

And now I pack this button

For that

Button 2 .Pack()

And I pass the padding

For padx = 10 and pady =10

After that

When we see our app

It looks good.

And at the bottom of this app, I create another label for mare attractiveness of the app

For that, I create the Label

I call it new_laabel2

Like this

So new_label2 = tk.Label()

And I pass the

Root,

Text= Thanks!! I want to display this text for this label and

Font=(areal, font size 25, bold)

And for the back ground color of this label to be black

For that

Bg = black and the for ground collor

Fg = white

And

To disply this label I pack it

For that

New_label2.pack()

And inside this pack parenthesis

I pass the padding

Padx = 10, pady = 10 and

Fill = both, and also

Expand = true

Like this

Ok

When I check the app it looks good and

The GUI is almost done

But

When you click this check button

Noting is happen

Or when you click this exit button it doesn’t exist

For that is app is now not fully functional

For that

We need to add different functions to this app

For that, we need to create a function to check our internet download speed

To do that first I import other important python library which is

Pyspeed test

So I import by using import keyword

Import pyspeedtest

Like this.

If you are the first time to use this pyspeed test python module you need to install before importing to your python project.

For that you can use

Terminal

At the bottom of PyCharm

And you write

Pip install pyspeedtest and you hit inter it starts to download and install to your project.

Ok, for me I already install

So, I only import this python module.

Now after we import this python module

I create an object by using speedtest class and

For that

St

I call it st

St = pyspeedtest.speedtest()

And inside this

I pass the link

for example I want to check the download speed from google website and

for that I write

www.google.com

like this

and

after that I create a function

def speed test():

and inside this function I create a speed variable and

speed = st.download() like this and I want to disply this with kb/s so I

write + kb/s

in a string format and to change this to a kb/s I divid it with 1000

and also I change it as a string to concatenate the string parts

and for rounding up this numbers I use

mat python module for that

the full code looks like

speed = str()

and math.floor()

then st.download()/1000)

like this

ok, you can import math module by simply writing

import math

you don’t need to install it.

So, the next is we need to desply the download speed for that we need to write

Inside this speed test function

Message box . showinfo()

And pass the speed

Like this

For the message box

You can import it simply by writing

From tkinter import messagebox

Like this

And now we finsh

This function then we need to give a command for our app button

For that

We move to the button1 and

I write

command = Speed test function

and for the exit command

or for the button2

command = root.destroy

like this

and now when we check this app

when you click this check it displays the download speed of your internet.

As you see it pop-ups the internet download speed.

And when you click this exit button

It removes this window.

So

This is a fully functional app.

You can also run it again and see how it works.

Ok this is

All about this video

I think you get some concepts from this video

Thanks for watching

I will see you in the next video.

Thanks again!!

!!! The Full Code !!!

```
import math
import tkinter as tk
from PIL import Image, ImageTk
import pyspeedtest
from tkinter import messagebox



root = tk.Tk()
root.geometry("300x450")
root.resizable(0,0)
root.title("Internet Download speed")
root.iconbitmap("robot icon.ico")

# Creating Function
st = pyspeedtest.SpeedTest("www.google.com")
def SpeedTest():
    speed = str(math.floor(st.download()/1000)) + "Kb/s"
    messagebox.showinfo("The speed is ", speed)




# Logo
logo = Image.open("b robot.png")
logo = ImageTk.PhotoImage(logo)
logo_label = tk.Label(image=logo)
logo_label.image = logo
logo_label.pack()

new_label = tk.Label(root, text = "Test Download Speed",
font=("Areal",18, "bold"), fg="green")
new_label.pack(padx=20, pady=20)

# Creating Buttons
button1 = tk.Button(root, text="Check",command=SpeedTest,
font=("Areal",20))
```

```
button1.pack(padx=20, pady=10)
button2 = tk.Button(root, text="Exit",
command=root.destroy,font=("Areal", 20))
button2.pack(padx=10, pady=10)

# Creating Label
new_label2 = tk.Label(root, text="Thanks!!", font=("Areal", 25,
"bold"), bg="black", fg="white")
new_label2.pack(padx=10, pady=10, fill="both", expand=True)


root.mainloop()
```