

GUI INTERFACE

MAKING GUI INTERFACE USING TKINTER

Tkinter is the python tk GUI toolkit. Which helps in converting the findings that are written in our code to visual form so that more users can understand the context without needing to go through our code and one of the biggest benefit is that it opens to many possibilities.

In this task I made the GUI interface using the graphs and findings from the above UK COVID 19 cases data and made Whole context into few graphs.

When we run the code a GUI Interface opens (shown below)



Which contains a heading as Graph Interface and have few buttons each have their functionality. As the name suggests pressing a button runs the command associated with it. Let's break code for each component in the GUI Interface.

For the image UK Covid 19. Which acts as our heading.

UK Covid 19
CONFIRMED CASES

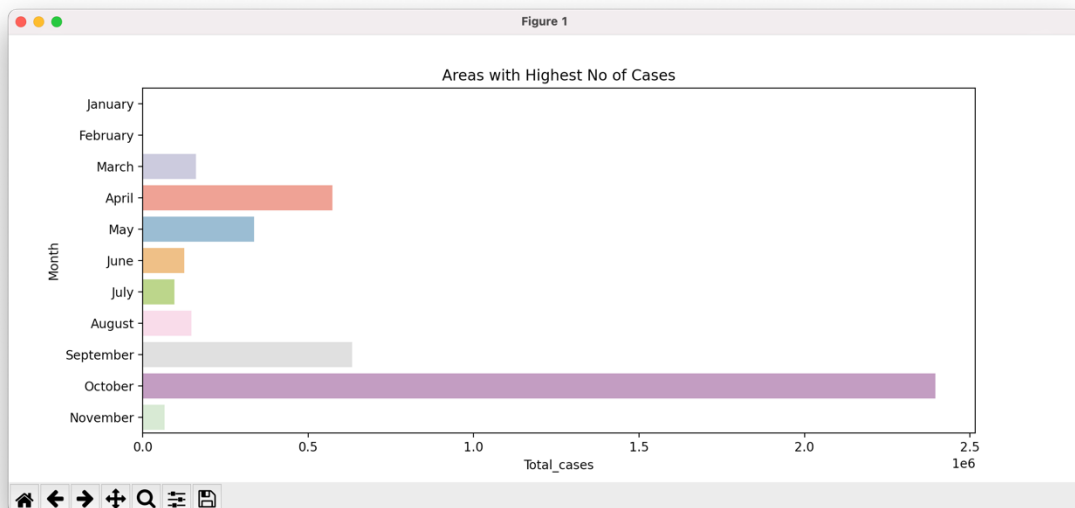
```
# Logo Command
logo = Image.open('Heading2.png')
logo = ImageTk.PhotoImage(logo)
logo_label = Label(image=logo)
logo_label.image = logo
logo_label.grid(column=0, row=0, columnspan=3)
```

For the Buttons and their commands. Let's see one example for Monthly cases data so that we get a brief idea how the Buttons work and how the command is given to each button.



```
def Monthly_cases():  
    monthly_group = pd.read_csv('month_group.csv')  
    plt.figure(figsize=(12,5),dpi=100)  
    sns.barplot(x='Total_cases', y= 'Month',data= monthly_group, orient = 'h',palette='Set3')  
    ).set(title='Areas with Highest No of Cases')  
    plt.show()  
  
graph_button3 = Button(gui_window,text="Montly_cases",command=Monthly_cases,height=4, width=25)  
graph_button3.grid(column=2,row=1)
```

After pressing the button the code in the def executes creates a graph which is displayed in another window and every matplotlib functionality is available for that picture. As shown below.

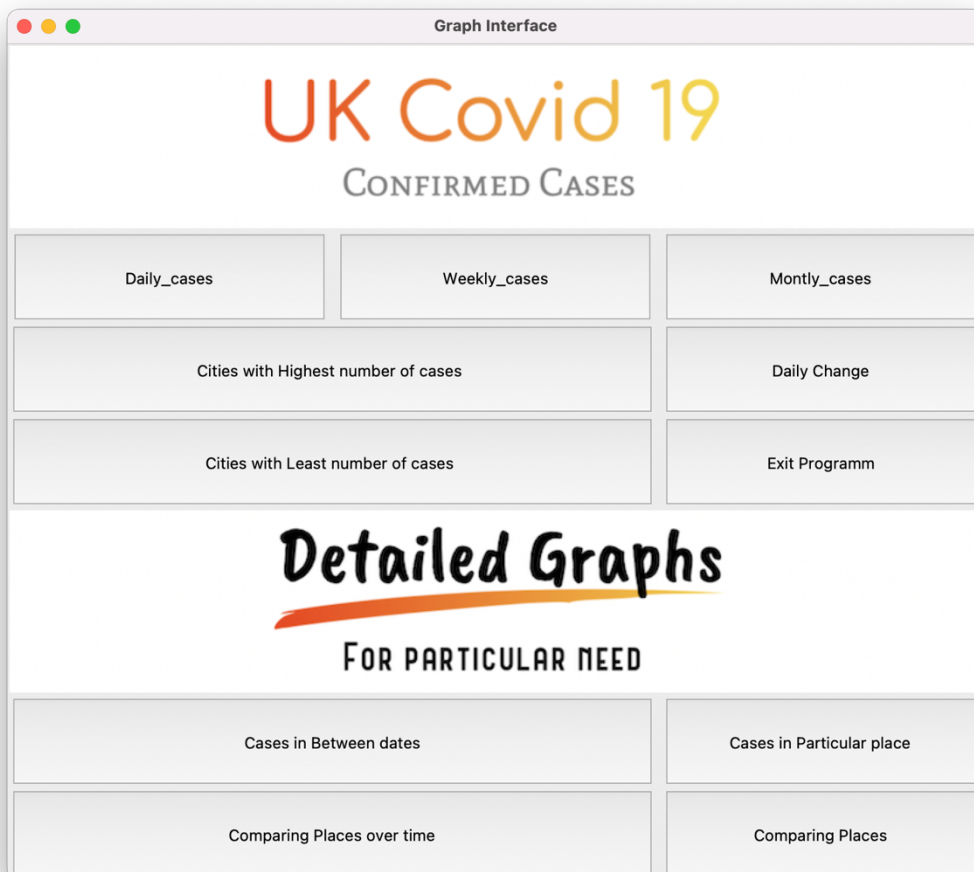


This is how the GUI Interface works. It is pretty useful and helps us in getting data without using any command line things just pressing button getting data is great.

Introducing New Elements in GUI Interface

From the above GUI we can see all the Buttons are static that we don't have any user input data from that but in the second Iteration. I have made few tweaks to increase the user experience by adding the user input data buttons.

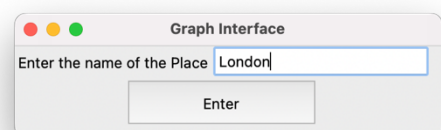
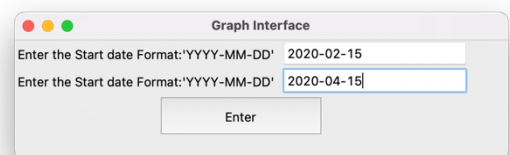
Where user can input the data and get output as he wants and also there are many categorical buttons for each use. Let's see one by one.



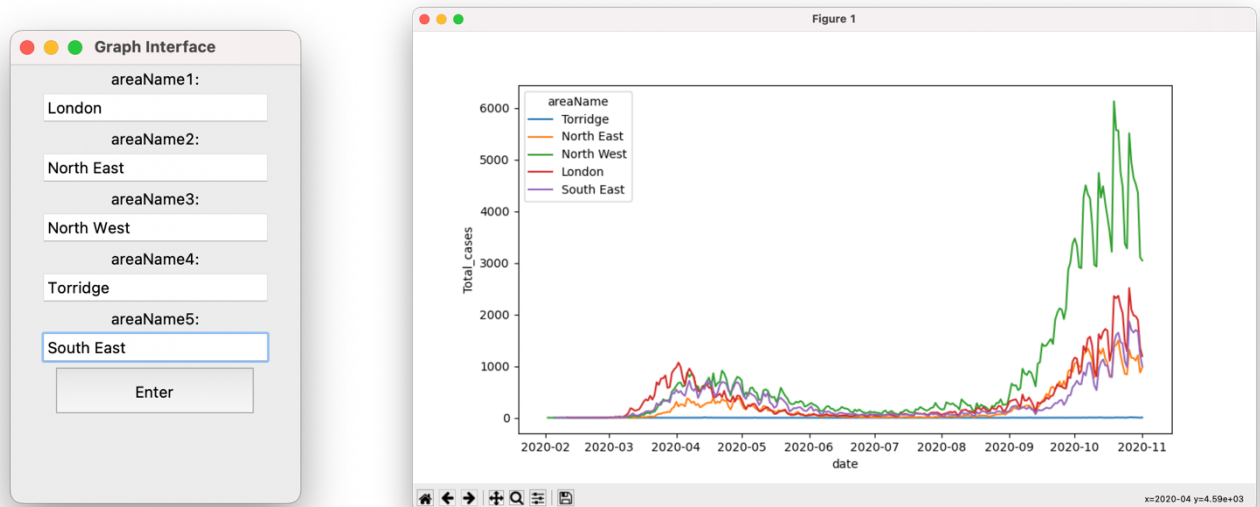
In the Detailed Graphs Section there are four buttons for different uses.

Cases in Between dates : where you can find the cases in the dates that you want. Enter the date in the given format and press Enter you get a graph window.

Cases in Particular Place : When you want find cases in a particular place then you can use this Button and Enter the place name.



Comparing Places over time: This helps when we want to compare any two or more places and to see the trend of the graph overtime and similar to the Comparing places.



The main thing that we need to implement is that to provide the user related data in the efficient way as possible. This is the one step towards it. I hope it's been a long way in developing this Interface. I'm really inspired by this usage and I'm looking forward in reaching the theme in long way.

The updated model enhances the idea case of the main material theme and also have a lot of customization if someone needs more and more use of real-estate of unwanted main things.

Added new matric interface to add more and more data related tasks to introduce more flexibility of the project to overcome the extended piece of the software.