

SOFTWARE: APPS

(PROGRAMS THAT DO THINGS)

OT 699 – WEEK 3B

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REVIEW

- 1) Basic concepts for App design
 - 1) UX, UI, Wireframing
 - 2) Front End, Back End, Full Stack
 - 3) Languages for web app development
 - 4) Python for app development
- 2) Making your own interactive GUI
 - 1) Problems? Q&A

MOVING FORWARD: PRACTICE IN SMALL GROUPS!

Now you're going to modify DemoGui so that it will select a random phrase from a list and display it, instead of counting button presses.

We'll try this in small groups, with one person per group designated to eventually show the working app.

I'll pop in and out of the breakout rooms to help, and provide hints.

Once you get the basics working, update the pictures and text labels within the GUI to make a fun and good looking final product!

Here are some more detailed hints and instructions....

Some basics-----

Don't overwrite your DemoGui.py ! Open it in Python, then go to File, Saveas, and save using a different name, like DemoGui2. Now work on that file.

Don't overwrite you DemoGui.ui ! Open it in Designer, then go to File, Saveas, and save under a new name like DemoGui2. Be sure that DemoGui2.py calls DemoGui2.ui.

First, you'll need to create a list, and a random number.

```
#a math library that includes a random number generator (add to import  
block)
```

- Import numpy as np

```
#generate a random number (to do when the button is clicked)
```

- randomnumber=np.random.randint(5) #between 0 and 4

#pre-define a few possible text phrases

you can do this in various locations. If located outside the button press function, be sure to attach this list to “self.”

I recommend defining this list beneath the button.clicked.connect line

The general syntax for creating a list is below

- ListName=[‘phrase0’, ‘phrase1’, ‘phrase2’, ‘phrase3’, ‘phrase4’]

#extract random answer choice (to do when button is clicked)

- `ListName[randomnumber]`

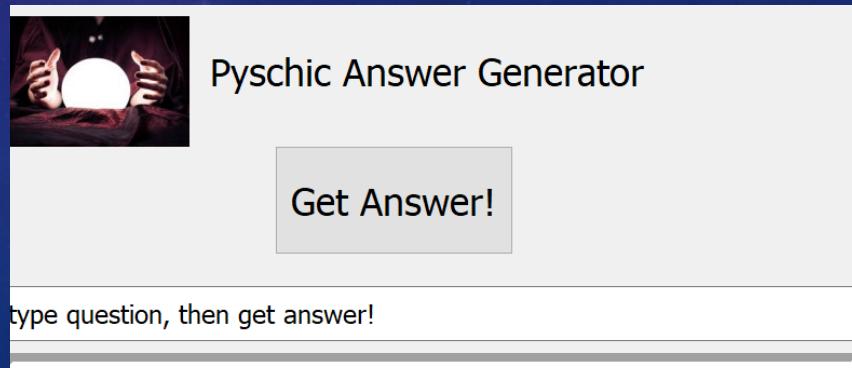
#This will be what you put inside the `.setText()`

YOUR TURN (~20 MINUTES)

Remember, you may want to change objectNames to useful things like get_answer instead of add_one in the .py file

You will also need to change text box sizes, labels, pictures, layout etc. in Designer.

Example:



HOW DID YOU DO?

Depending on time:

Try out “ToyGui.py”

---may give you some ideas for future projects, and there is a plot button that I’d like to confirm works for everyone.

For Mac users: Note the quick changes to the top and bottom of the code. The plot button may not work on all Macs. If it doesn’t work, let us know and we’ll try to figure out a solution over the next few days, since plotting in python may come back once more in this course.

NOW IN DIFFERENT TEAMS (~20 MINUTES)

- 1) Wireframe the general concept of an app. A landing page and maybe one or two other screens is fine, just enough to give shape to an idea.
-You can wireframe using any method (PyQt5, paint, ppt, etc.)

- 2) Be ready to answer the following when we come back together:
 - Who is this intended for?
 - What function does it serve for the user?
 - How/where will they access this software (e.g. phone, tablet, PC)?
 - Who would be able to implement the final design (e.g. Front End JavaScript/html developer or full stack)?
 - Any other info you'd need to tell a developer?
 - Would you hire a freelancer on Fiverr or Upwork for < \$5k, or do you think you'd need a pro team to deploy this on the App Store for \$50-100k?
 - *If you think you'll need to update this often...it may be worth a pro team...freelancers are not known for giving you modifiable code.*