

Introduction to GUI Development using Pycharm

Laboratory Activity 4

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Course/Section: CPE21S4

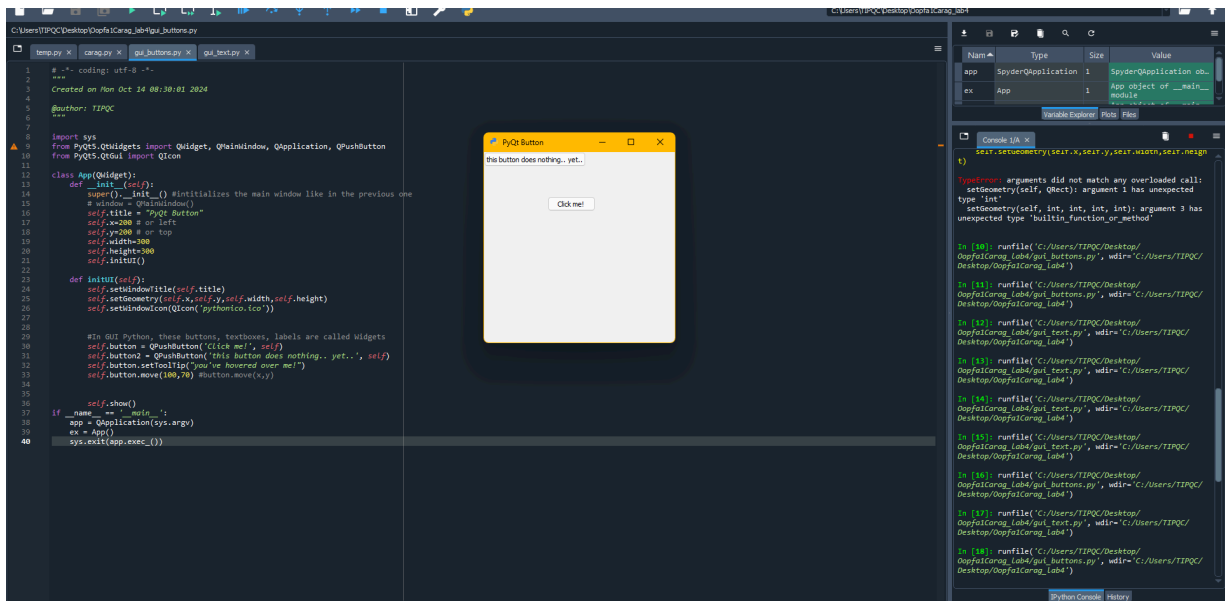
Engr. Maria Rizette Sayo

Output Results

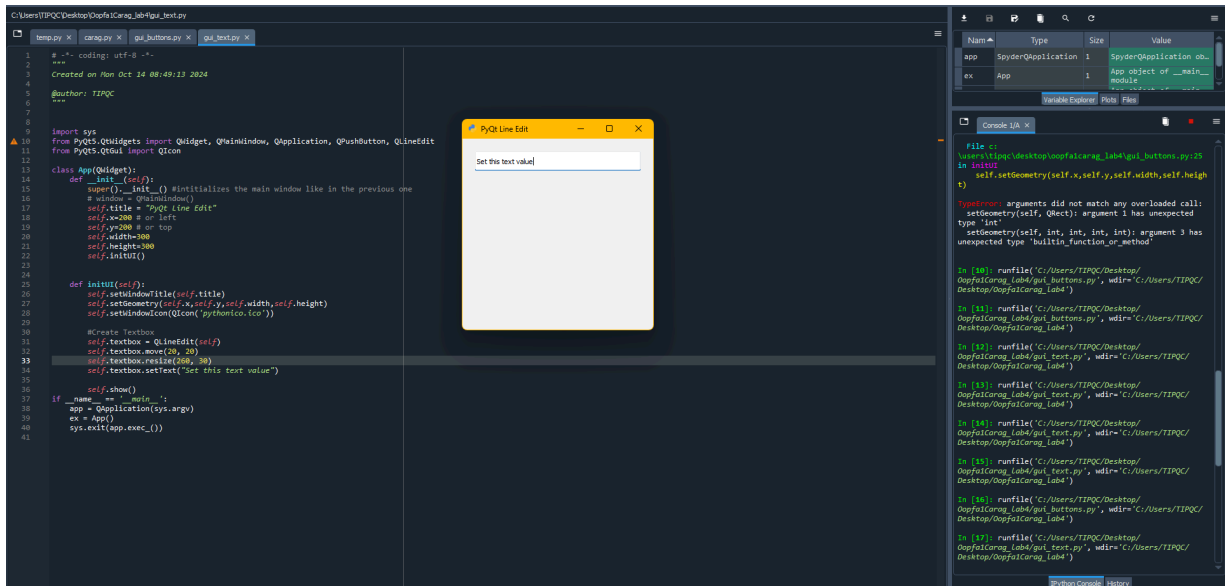
GUI Icon

The screenshot displays the PyCharm IDE interface. On the left, a Python script is open, showing the initialization of a Qt application window. The script includes comments and code for setting the window title, geometry, and icon. In the center, a small window titled "First QOP GUI" is visible, representing the output of the application. On the right, the Python Console shows the execution of the script, with multiple lines of output indicating the successful execution of various methods like `runfile` and `setGeometry`.

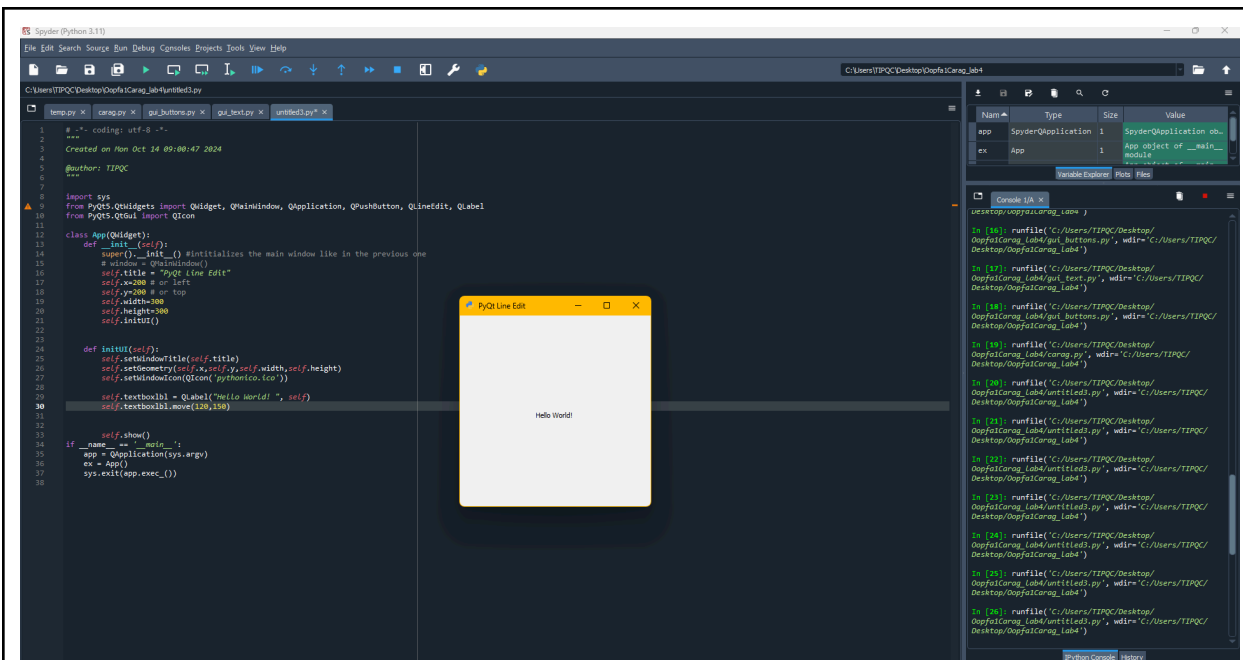
```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Oct 14 08:19:39 2024
4
5 @author: TTPQC
6 """
7
8 import sys
9 from PyQt5.QtWidgets import QMainWindow, QApplication
10 from PyQt5.QtGui import QIcon
11
12
13 class App(QMainWindow):
14
15     def __init__(self):
16         super().__init__() #initializes the main window like in the previous line
17         # window = QMainWindow()
18         self.title = "First QOP GUI"
19         self.initUI()
20
21     def initUI(self):
22         self.setWindowTitle(self.title)
23         self.setGeometry(200, 200, 300, 300)
24         self.setIcon(QIcon("pythonico.ico")) #sets an icon
25         self.show()
26
27 if __name__ == '__main__':
28     app = QApplication(sys.argv)
29     Main = App()
30     sys.exit(app.exec_())
```



GUI Button

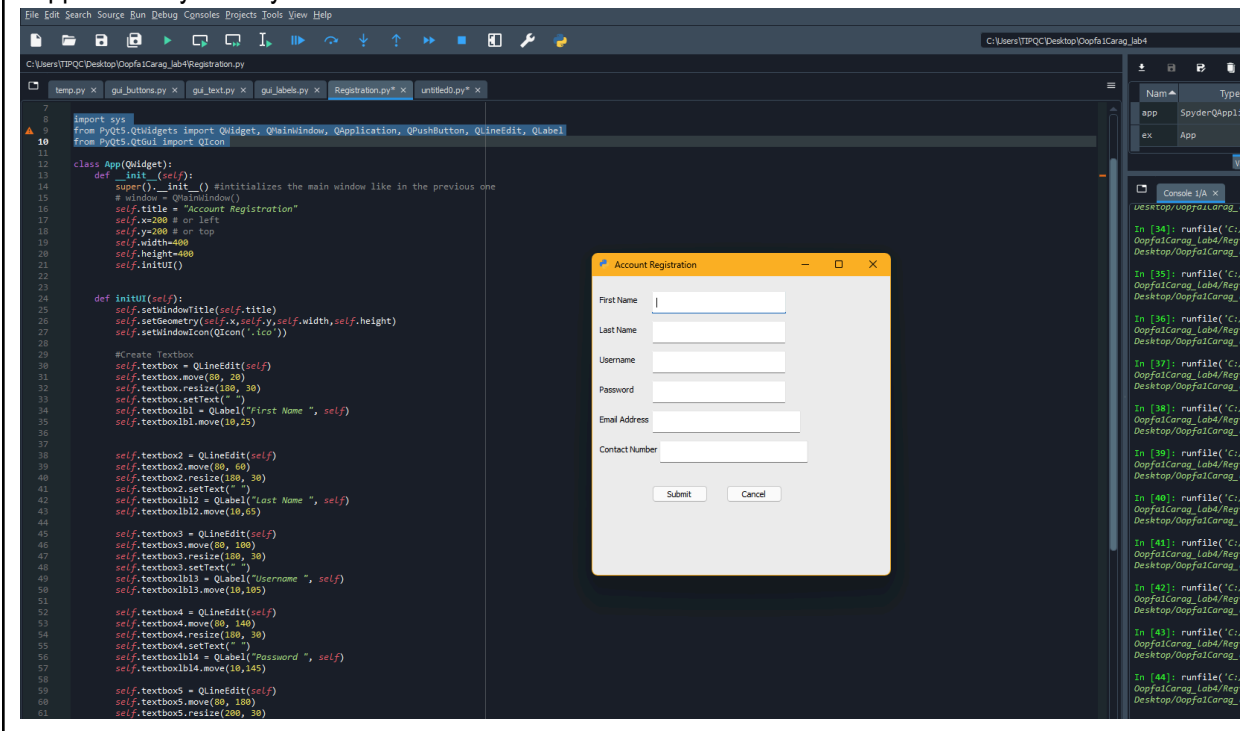


GUI Text



GUI Label

Supplementary Activity:



What are the common GUI Applications that general end-users such as home users, students,

and office employees

use? (give at least 3 and describe each)

- Microsoft Office Suite (Word, Excel, PowerPoint):
-
- Word: A word processing application widely used for creating documents, reports, and letters. It features a user-friendly interface that allows users to format text, insert images, and utilize templates easily.
-
- Excel: A spreadsheet program ideal for organizing, analyzing, and visualizing data. Users can create formulas, charts, and pivot tables, making it essential for tasks like budgeting and data analysis.
-
- PowerPoint: A presentation software used to create visual slideshows for meetings, lectures, or events. It offers various templates, animations, and multimedia integration to help convey information effectively.

2. Based from your answer in question 1, why do you think home users, students, and office employees use those GUI programs?

- The ease of functions enables users such as students and employees perform their necessary tasks with quality and meaning.

3. How does Pycharm help developers in making GUI applications, what would be the difference if developers made GUI programs without GUI Frameworks such as Pycharm or Tkinter?

- In terms of **Integrated Development Environment (IDE)** The PyCharm provides a whole workspace where developers can write, edit, and run code, making it easier to manage and control projects.

4. What are the different platforms a GUI program may be created and deployed on? (Three is required then state why?)

- Desktop Platforms (Windows, macOS, Linux):
- Because they provide a wide range of resources and capabilities, including the access to hardware (like printers and storage) and a steady environment for complex applications.

might a program be created on that specific platform)

5. What is the purpose of `app = QApplication(sys.argv)`, `ex = App()`, and `sys.exit(app.exec_())`?

- The application is initialized by this line `QApplication(sys.argv)`. The primary class for controlling the main settings and control flow of a GUI application is called `QApplication`. Command-line arguments can be provided to the application via the `sys.argv` option.
- `ex = App()`, It defines the main window of the application. This line effectively creates and prepares the GUI for display.

- `sys.exit(app.exec_())`, This line starts the application's event loop. When the event loop is completed, the `sys.exit()` function guarantees a clean program exit by returning to the application's exit status.

Conclusions:

I have learned the different ways on how to create GUI such as making for its icons wherein we have to first import the PyQt5 widgets after that we have to define the attributes associated with it containing the objects that our attributes may give way for us to access. On the GUI button interface we have added the name "QPushButton" in the imports in order for us to implement the attributes and variables such as the name and the position of the button, this is the same with what we have done in the GUI text and label we have also initialized their variable names in the import header to allow its implementation in the program. Overall I have used my knowledge and intelligence acquired in the activities and performed it in the supplementary activity in which I created a program that allows me to enter the account informations like their first and last name, email addresses, contact number, and username.