PySide6 – Qt for Python

pyside6-assistant.py – Code Highlights

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PySide6 – Importing...

- Previous programs: python-help, bash-help, pyqt6-help
- Non-standard importing, so dir() function works.
- Normal:
    ```
    from PySide6.QtCore import QDate
    ```
- Non-standard:
    ```
    import PySide6.QtCore as QtCore
    ```
- Can then get all Classes of the module. E.g:
    ```
    dir(QtCore)
    ```
- Can then get all attributes of a Class. dir(QtCore.QClass) E.g.:
    ```
    dir(QtCore.QDate)
    ```

- `Modules:46 Classes:1296 Total Attributes:127811`
- `Attributes filtered out double_underscore.`

PySide6. Using dir() to get Classes and Attributes...

```python
def build_dictionary(module_list):
    """
    Build the dictionary of Modules, Classes, and a list of the Class attributes
    """
    qt6_dict = {}
    for module in module_list:
        if module.startswith("Qt"):
            qt6_dict[module] = {}

    for module, classes in qt6_dict.items():
        classes_list = dir(eval(module))

        for subgroup in classes_list:
            qt6_dict[module].update ( {subgroup: None} )
            module_subgroup_str = module + "." + subgroup
            method_list = (dir(eval(module_subgroup_str)))
            qt6_dict[module][subgroup] = method_list

    return qt6_dict

module_list = dir()
qt6_dict = build_dictionary(module_list)
```

PySide6. Dictionary fills QTreeWidgetItem...

```python
def fill_tree_widget_item(self, invisible_root_item, dictionary):
    for top_key, class_dict in dictionary.items():
        # Dictionaries: 'QDomText': ['EncodingPolicy', 'NodeType', ...'toText']}
        parent = QtWidgets.QTreeWidgetItem([str(top_key)])
        invisible_root_item.addChild(parent)

        for class_name, method_list in class_dict.items():
            child = QtWidgets.QTreeWidgetItem([str(class_name)])
            parent.addChild(child)

            for method in method_list:
                grandchild = QtWidgets.QTreeWidgetItem([str(method)])
                child.addChild(grandchild)
```

PySide6. Removal from a list with reversed pop()...

```python
length = len(file_list)
for index, file_path_name in enumerate(reversed(file_list)):
    file_name = PurePath(file_path_name).name
    if "_rc" in file_name or "rc_" in file_name:
        file_list.pop((length -1) - index)
```

PySide6. Using "pygments" module to display code...

```python
        # Build the html string of code for displaying by the web_browser.
        html_str = ""
        for file in file_list:
            if file.endswith(".py"):

                lexer = PythonLexer()

                #style = get_style_by_name('friendly')
                style = get_style_by_name('github-dark')
                #style = get_style_by_name('paraiso-dark')
                #style = get_style_by_name('tango')
                #style = get_style_by_name('native')
                #style = get_style_by_name('colorful')
                #style = get_style_by_name('default')

                formatter = HtmlFormatter(full=True, style=style, linenos=True)

                with open(file, "r") as fin:
                    python_code = fin.read()

                # Add to html string the path and filename, and the code.
                html_str += "<h4 style='color:chartreuse;'>{}</h4>".format(file)
                html_str += highlight(python_code, lexer, formatter)
```

PySide6. Using "pygments" module to display code...

```
/home/ian/venv-pyside6/lib/python3.10/site-
packages/PySide6/examples/3d/simple3d/simple3d.py

 1 ####################################################################
 2 ##
 3 ## Copyright (C) 2018 The Qt Company Ltd.
 4 ## Contact: https://www.qt.io/licensing/
```

```
41 """PySide6 port of the qt3d/simple-cpp example from Qt v5.x"""
42
43 import sys
44 from PySide6.QtCore import (Property, QObject, QPropertyAnimation, Signal)
45 from PySide6.QtGui import (QGuiApplication, QMatrix4x4, QQuaternion, QVector3D)
46 from PySide6.Qt3DCore import (Qt3DCore)
47 from PySide6.Qt3DExtras import (Qt3DExtras)
48
49
50 class OrbitTransformController(QObject):
51     def __init__(self, parent):
52         super().__init__(parent)
53         self._target = None
54         self._matrix = QMatrix4x4()
55         self._radius = 1
56         self._angle = 0
```

PySide6. Wrong order of execution. Huh?..

```python
# TODO: The follow 2 lines of code appear to run in reverse order!
# Update the code_browser with the html string.
self.code_browser.setHtml(html_str)
# Use subprocess to run the example program.
run(['python', program])
```

self.code_browser.refresh() ← Didn't fix problem

PySide6. Keyboard shortcut for zoom in and zoom out...

```python
##### Create the Browser for displaying the code in html form   #####
self.code_browser = QtWebEngineWidgets.QWebEngineView()
self.code_browser.setPage(CustomWebEnginePage(self))
self.code_browser.setZoomFactor(1.2)

#  Provide keyboard shortcut zoom-in -out -reset of the WebEngineView.
# Zoom In
QtGui.QShortcut("Ctrl++", self, activated=lambda:
        self.code_browser.setZoomFactor(self.code_browser.zoomFactor() + 0.2))
# Zoom Out
QtGui.QShortcut("Ctrl+-", self, activated=lambda:
        self.code_browser.setZoomFactor(self.code_browser.zoomFactor() - 0.2))
# Zoom Reset
QtGui.QShortcut("Ctrl+0", self, activated=lambda: self.code_browser.setZoomFactor(1))
# Quit. Shortcut.
QtGui.QShortcut("Ctrl+q", self, activated=lambda: self.close())
```

PySide6. Splitter...

```python
        splitter_h.addWidget(self.tabs)
        # Add v splitter on rhs of h splitter
        splitter_h.addWidget(splitter_v)
```

```python
        splitter_h.setStretchFactor(0,4)
        splitter_h.setStretchFactor(1,3)

        splitter_v.setStretchFactor(0,1)
        splitter_v.setStretchFactor(1,1)
        splitter_v.setStretchFactor(2,1)
        splitter_v.setStretchFactor(3,1)
```

Note: Cant find Splitter "handle" icon.

PySide6. End...

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