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Introduction to Qt:
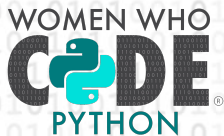## How to Create Your First Interface
Session 01

Our Mission

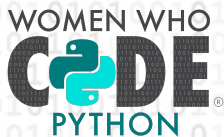Inspiring women to excel in technology careers.

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Our Vision

A world where diverse women are better represented as engineers and tech leaders

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Our Target

Engineers with two or more years of experience looking for support and resources to strengthen their influence and levelup in their careers.

290,000
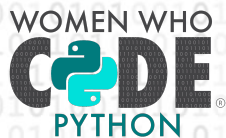## Members

70 networks in 20 countries
122+ countries
14K+ events
$1025 daily Conference tickets
$2M Scholarships
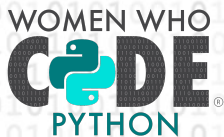Access to jobs + resources
Infinite connections

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OUR MOVEMENT

As the world changes, we can be a connecting force that creates a sense of belonging while the world is being asked to isolate.

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Code of Conduct

WWCode is an inclusive community, dedicated to providing an empowering experience for everyone who participates in or supports our community, regardless of gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, ethnicity, age, religion, socioeconomic status, caste, creed, political affiliation, or preferred programming language(s).

Our events are intended to inspire women to excel in technology careers, and anyone who is there for this purpose is welcome. We do not tolerate harassment of members in any form. Our Code of Conduct applies to all WWCode events and online communities.

Read the full version and access our incident report form at
womenwhocode.com/codeofconduct

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Upcoming Events

Bytes n' Brew I - New Year New Me! *Featured*

SAT 15 JAN

📍 Online | Other | 12:00 AM - 1:00 AM PST (UTC-0800)

Organized By: WWCode Data Science | WWCode Blockchain | WWCode Python

Bytes n' Brew II - New Year New Me! *Featured*

SAT 15 JAN

📍 Online | Other | 8:00 AM - 9:00 AM PST (UTC-0800)

Organized By: WWCode Data Science | WWCode Blockchain | WWCode Python

✨ How to Build a WhatsApp Chatbot Using Python and Twilio ✨ *Featured*

TUE 18 JAN

📍 Online | Python | 8:00 PM PST (UTC-0800)

Organized By: WWCode Python

✨ LeetCode Series Study Group ✨ *Featured, Recurring*

THU 20 JAN

📍 Online | Python | 5:00 PM - 6:30 PM PST (UTC-0800)

Organized By: WWCode Career Nav | WWCode Python

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Follow us

Register for Events and Join our community -
womenwhocode.com/python
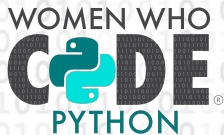**Email** - python@womenwhocode.com
Social Media:⬇️

🐦 @WWCodePython

💼 Women Who Code Python

📷 @WWCodePython

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Introduction to

LEARN HOW TO CREATE YOUR FIRST INTERFACE!

Qt

JANUARY 11 TH, 2022 - 9 PM ET

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Hi! I'm Jessica

linkedin.com/in/jessicakoubi

Goal of the series

- Create a simple interface to execute functions.
- Get user input in various way (text field, slider, drop-down menu).
- Basic understanding of Qt.

Goal of the series

What is Qt ?

- Widget library.
- Cross-platform.
- Used by Google Earth, Virtualbox, Teamviewer, KDE, ...
- Available under both commercial and open-source licenses.
- Have Python bindings (PyQt and PySide).
- Have an interface...to create interfaces (Qt Designer)

PyQt vs PySide

- Brief history. Riverbank (PyQt) vs Nokia (PySide)
- PySide is the official binding.
- Licensing is the biggest difference
  - PyQt: GPL/Commercial license
  - PySide: LGPL
- Few APIs differences.
- Versions
  - Qt4: PyQt4/Pyside
  - Qt5: PyQt5/PySide2
  - Qt6: PyQt6/PySide6

PyQt vs PySide : APIs differences

- Signal and Slot (pyqtSignal/pyqtSlot vs Signal/Slot)

```python
# PyQT
my_signal_a = pyqtSignal()
my_signal_b = pyqtSignal(str)

@pyqtslot
def my_slot():
    pass

# PySide
my_signal_a = Signal()
my_signal_b = Signal(str)

@Slot
def my_slot():
    pass
```

PyQt vs PySide : APIs differences

- *exec() vs exec_()*
- Loading and converting *.ui* files.

```python
import sys
from PyQt5 import QtWidgets, uic

app = QtWidgets.QApplication(sys.argv)

window = uic.loadUi("my_win.ui")
window.show()
app.exec()
```

```python
import sys
from PySide2 import QtCore, QtGui, QtWidgets
from PySide2.QtUiTools import QUiLoader

loader = QUiLoader()

app = QtWidgets.QApplication(sys.argv)
window = loader.load("my_win.ui", None)
window.show()
app.exec_()
```

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PyQt6 vs PySide6 : APIs differences

- PySide6 __feature__
- PyQt6 *Qt.Alignment* vs PySide6 *Qt.AlignmentFlag*
- PyQt6 dropped support for short names.

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Abstraction layer

- One code-base that works on PyQt and PySide
  - github.com/mottosso/Qt.py (PyQt4/PyQt5/PySide2/PySide)
  - github.com/spyder-ide/qtpy (PyQt6/PyQt5/PySide2/PySide6)
- Example, using Qt.py

```
from Qt import QtWidgets, QtCore

class QPersonWidget(QtWidgets.QWidget):

    nameChanged = QtCore.Signal(str)
```

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Creating our virtual environment

- Clone the *talk_introduction_to_qt* repository.
- Create a virtual environment using venv.
- Install the required packages with pip.

```
git clone git@github.com:jessicakoubi/talk_introduction_to_qt.git
cd talk_introduction_to_qt

python -m venv env
source env/bin/activate

pip install -r requirements.txt
```
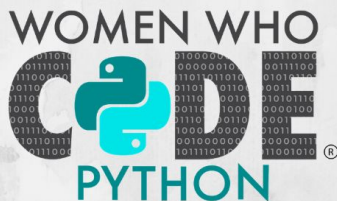
QMainWindow and QPushButton

- Code available at:
https://github.com/jessicakoubi/talk_introduction_to_qt/blob/main/src/session_01

Q&A

Thank you !

Stay Connected

- Next session on January 25th 2022 at 21:00 ET

- Find more resources related to this talk on github.com/WomenWhoCode/WWCodePython

- For additional questions, email me at jessica.koubi@gmail.com