# Introduction to PyQt5

What about PySide 2?

# We need PyQt5 and Qt Designer

*Windows:*
pip install pyqt5-tools

*Mac:*
pip3 install pyqt5
https://build-system.fman.io/qt-designer-download
(Google search: "qt designer fman build system")

*Linux:*
pip install pyqt5
www.Qt.io Download Qt Creators

https://a.gasss.ga

# "Q" then "T" or "Cute"?

# Background

First developed in 1994, Qt ("cute") is the leading independent technology for cross-platform development with over 70+ industries developing Qt-based products on desktop, embedded and mobile operating systems. 5 out of 10 Fortune 500 companies, as well as key players all around the world in segments such as automotive, consumer electronics, medical, entertainment and industrial automation, have built their product with Qt. Where there is a user interface, there is Qt.

# chinese-programmer-wrong-pronunciation

中国程序员容易发音错误的单词(点击喇叭可收听正确读音)

| 单词 | 正确发音 | 错误发音 |
|------|---------|---------|
| access 🔊 | ✅ ['ækses] | ❌ [ək'ses] |
| admin 🔊 | ✅ ['ædmɪn] | ❌ [ɜːd'mɪn] |
| agile 🔊 | ✅ ['ædʒaɪl] | ❌ [ə'dʒaɪl] |
| amazon 🔊 | ✅ ['æməzən] | ❌ ['əmeizən; ə'meizən] |
| analogy 🔊 | ✅ [əˈnælədʒi] | ❌ [ænə'lɒdʒi] |
| Angular 🔊 | ✅ ['æŋgjʊlə] | ❌ ['æŋgələ; 'æŋdʒʌlə] |
| AJAX 🔊 | ✅ ['eidʒæks] | ❌ [ə'dʒʌks] |
| alias 🔊 | ✅ [ˈeɪliəs] | ❌ [ə'lais] |
| Apache 🔊 | ✅ [ə'pætʃɪ] | ❌ [ʌpʌtʃ] |
| app 🔊 | ✅ [æp] | ❌ [eipi'pi] |
| archive 🔊 | ✅ ['ɑːkaɪv] | ❌ ['ətʃɪv] |

https://github.com/shimohq/chinese-programmer-wrong-pronunciation

# Complete software development framework – Qt

Easily create connected devices, UIs and applications with native C++ performance. It's powerful, yet compact, has intuitive tools and libraries and will blow your mind!

### Code less, create more, deploy everywhere

Write your source code once, build and watch it run on any operating system and hardware. It's truly cross-platform.

**Supported Platforms  >**

### Design for tomorrow, deliver today

Embrace the complete freedom to design tomorrow's UIs. Use drag-and-drop tools, declarative QML or imperative C++ - the choice is yours.

**UI approaches  >**

### For developers, by developers

Qt takes the hassle out of programming and 'it just feels right'. It's intuitive, has all the tools you need, comprehensive documentation and full support from Qt community.

**Meet the community  >**

# PyQt vs other GUI libraries?

Tkinter?
wxPython (wxWidgets)?

**PyQt if you're developing anything serious, especially as things you learn will translate directly to working with Qt in other languages too** if you ever need to, and Qt is probably the best cross-platform interface toolkit available right now.

There are only two real (potential) disadvantages:
PyQt is only available under the **GPL**. This means if you release your code, it has to be available under a compatible license, under the terms of Nokia's GPL Exception, or under a commercial license (which costs money). This is in contrast to Qt, which is now available under the LGPL.

PyQt is not included by default with Python installations. **You're going to have to package the library yourself.** (Ars Technica has a good article on doing it for Windows and OS X.)

PyQt/PySide have a pretty powerful **WYSIWYG** editor. wxPython has a couple, but I don't think any of them support all of wx's widgets and their support is spotty. That hasn't stopped me as I do all my coding by hand anyway.

**What You See Is What You Get**

In fact, I only know how to use PyQt……

# Let's get started!

# Wa...wait!

# pylint and Visual Studio Code

hello, world

```c
#include <stdio.h>

main( ) {
        printf("hello, world\n");
}
```

```python
import sys
from PyQt5.QtWidgets import QApplication, QWidget

if __name__ == '__main__':

    app = QApplication(sys.argv)

    w = QWidget()
    w.setWindowTitle('hello, world')
    w.show()

    sys.exit(app.exec_())
```

# Do we need to manually place all the widgets?

# How to use "ui" files?

- Use pyuic5 to convert it into .py file
- Use "uic" module to import it

# Distribution

- qresources
- pyinstaller

# PySide2 vs PyQt5

LGPL vs GPL
Documentation?
Support?