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# **blnuhr Documentation**

*Release 1.gec7267b.dirty*

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*blnuhr*: Python & Qt rendition of Berlin's quantity didactics clock

**docs** <http://blnuhr.readthedocs.org>

**git** <https://github.com/prjemian/blnuhr/>

<http://www.surveyor.in-berlin.de/berlin/uhr/indexe.html> The Berlin quantity didactics clock



# CHAPTER 1

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## How it shows the time

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The time is calculated by adding the lit rectangles. The top rectangle blinks changes every second. In the next row, the each rectangle represents 5 hours. In the third row, every rectangle represents 1 hour. Together, these two rows show the hour of the day. The fourth row rectangles represents 5 minute intervals. (Red rectangles show 15 minute intervals.) In the last row, every rectangle represents 1 minute. Like the hours, these two rows show the minutes after the hour.





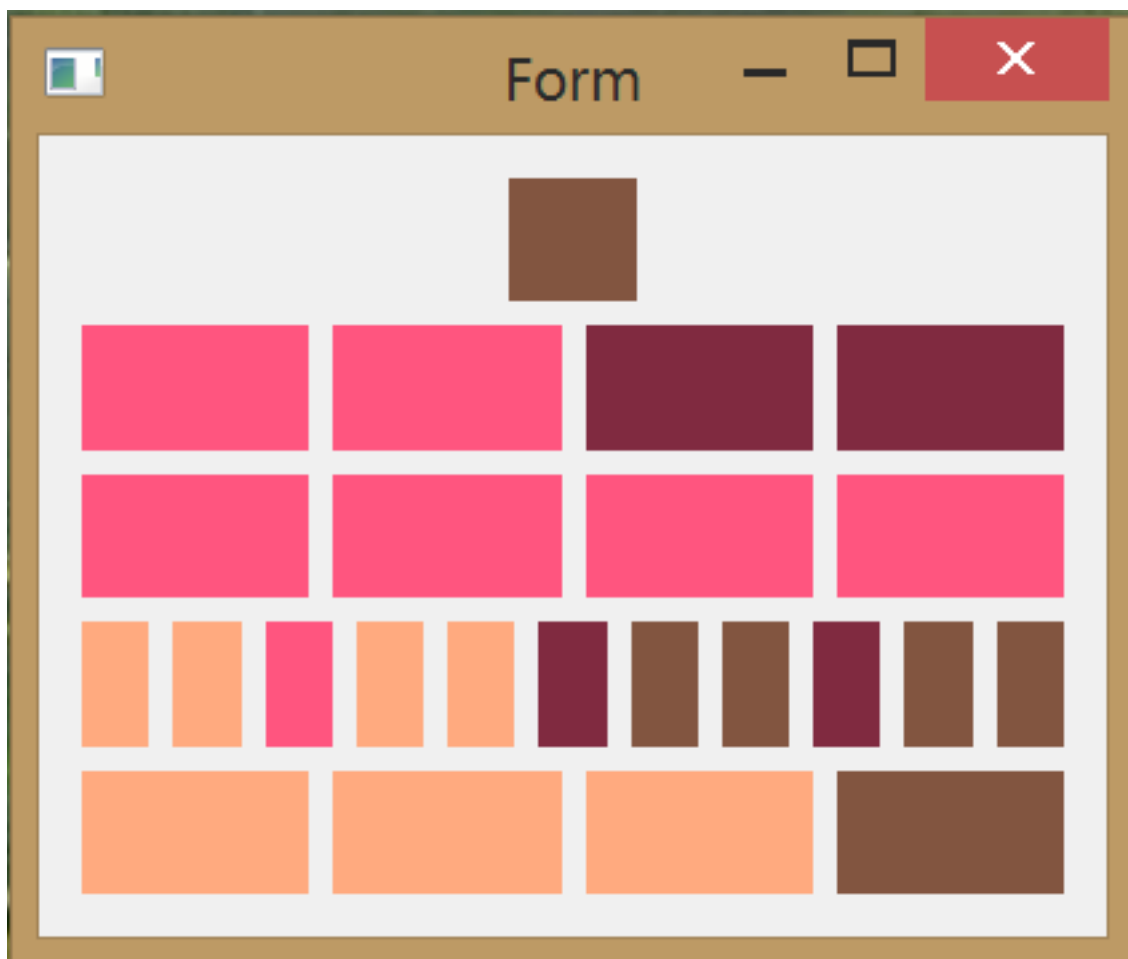
## CHAPTER 2

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Example 14:28 (2:28 pm)

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In this example, the time is 14:28.



Here's the explanation:

**row 1** seconds are an even number, LED is off

**row 2** first two LEDs are on, at least 10 AM

**row 3** all LEDs are on, hours = 10 AM + 4 = 14:00

**row 4** first 5 LEDs are on, at least 25 after the hour

**row 5** first 3 LEDs are on, minutes = 25 + 3 = 14:28

## CHAPTER 3

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Compare 16:57 (4:57 pm)

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Compare with a view of the Berlin Quantity Didactics Clock in 2004 (after it was moved to the Europa center). The time on the clock shown is 16:57 (4:57 pm).

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*blnuhr* Package: Source Code Documentation

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Source code documentation for *blnuhr*.

## 4.1 main Module

```
class blnuhr.main.Clock_blnuhr (parent=None)  
    Bases: PyQt4.QtGui.QWidget  
    create a widget for the clock and start it running  
  
    start ()  
        begin the periodic update of the clock  
  
    update (t=None)  
        manage a periodic update of the clock  
        Show the time as a string on the seconds LED as a tool tip  
  
blnuhr.main.main ()  
    entry point to run standalone
```

## 4.2 resources Module

(internal) support for items in resources folder, such as forms defined in .ui files

```
blnuhr.resources.get_forms_path ()  
    identify our resources directory  
  
blnuhr.resources.loadUi (ui_file, baseinstance=None, **kw)  
    load a .ui file for use in building a GUI  
  
Wraps uic.loadUi() with code that finds our program's resources directory.  
  
See http://nullege.com/codes/search/PyQt4.uic.loadUi
```

See <http://bitesofcode.blogspot.ca/2011/10/comparison-of-loading-techniques.html>

inspired by: <http://stackoverflow.com/questions/14892713/how-do-you-load-ui-files-onto-python-classes-with-pyside?lq=1>

### Basic Procedure

1. Use Qt Designer to create a .ui file.
2. Create a python class of the same type as the widget you created in the .ui file.
3. When initializing the python class, use `uic` to dynamically load the .ui file onto the class.

Here is an example from this code:

```
1 from PyQt4 import QtGui
2 import resources
3
4 UI_FILE = 'plainTextEdit.ui'
5
6 class TextWindow(QtGui.QDialog, form_class):
7
8     def __init__(self, title, text):
9         QtGui.QDialog.__init__(self, parent)
10        resources.loadUi(UI_FILE, baseinstance=self)
11        self.setWindowTitle(title)
12        self.plainTextEdit.setPlainText(text)
13
14 import sys
15 app = QtGui.QApplication(sys.argv)
16 win = TextWindow('the title', __doc__)
17 win.show()
18 sys.exit(app.exec_())
```

`blnuhr.resources.resource_file` (*filename*)  
absolute path to file in resources directory

# CHAPTER 5

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## Indices and tables

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