Documenting Your Project



Reindert-Jan Ekker

@rjekker www.codesensei.nl



Overview



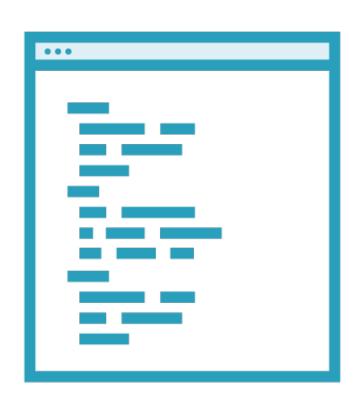
Docstrings and standards

Sphinx: generating HTML from source documentation

reStructuredText



PEP 257



Semantics and conventions for docstrings

Docstrings

- String as first statement of a module, function, class or method
- Becomes the _doc_ attribute



```
def function(a, b):
    """Do X and return a list."""
```

Simple Docstring Example

Always use """three double quotes"""

Phrase ending in a period

Methods: specify return value

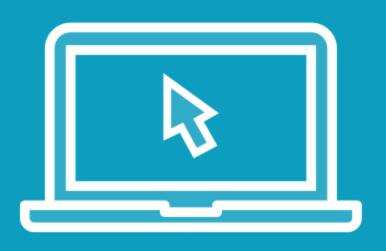


A Multi-line Docstring

```
def complex(real=0.0, imag=0.0):
    """Form a complex number.
    Keyword arguments:
    real -- the real part (default 0.0)
    imag -- the imaginary part (default 0.0)
    11 11 11
    if imag == 0.0 and real == 0.0:
        return complex_zero
```



Demo



Sphinx

- Python documentation generator
- De-facto standard
- reStructuredText -> HTML, PDF, etc.
- Extract docstrings from code

Running Sphinx



First create docs/ folder

- Run commands from in there

sphinx-quickstart

make html

Configuration is stored in conf.py



reStructuredText



Plain-text based markup

Paragraphs separated by a single blank line

- Indentation matters

reStructuredText

```
=======
```

A Chapter

A Section

A Subsection

```
* Bulleted list item one
```

* Bulleted list item two

- + Milk
- + Butter

```
`Link text <http://example.com/>`_
http://www.example.com
```



reStructuredText: Code Examples

```
Code examples start with ::, delimited by indentation. For example see here::
```

```
def hi():
    print("Hello, World!")
```

Demo



Apidoc

- Sphinx extension
- Generate docs from Python source

```
# Generate docs for mypackage into docs folder
sphinx-apidoc -o docs mypackage
# Get help
sphinx-apidoc --help
# Generate everything from scratch
# (no need for sphinx-quickstart)
sphinx-apidoc --full -o docs mypackage
```

Apidoc

Extracts docstrings from Python code

Creates reStructuredText with directives for autodoc

Autodoc needs to be enabled in conf.py



```
:class:`Player`
:class:`gamedemo.Player`

:meth:`Weapon.attack`
:func:`mymodule.func`
:module:`mymodule`
```

- **◄** Sphinx allows linking to classes
- This will create hyperlinks into docs generated by autodoc
- **◄ Links to methods, functions, modules**

Documenting a Function

```
def is_alive(player):
    """Determine whether the player is alive
    :param player: a Player object
    :return: True when the player is alive, False
otherwise
    11 11 11
return player.health > 0
```



Summary



Docstrings and standards

Sphinx: generating HTML from source documentation

reStructuredText



Up Next: Type Hints

