Documenting Your Project

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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, module or class
- 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)
    """
    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
    """
return player.health > 0
```

Summary

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