

Dexy for Reproducible Science

<http://dexy.it>
@dexyit

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de
xy

make | docs | sexy

- document-oriented 'make'
- project automation
- code is code, prose is prose, data is data
- many-to-many relationships of prose to code/data
- document live code
- Open Source (MIT)
- Written in Python

Dexy Can

- Run Python code
- Compile and run C code
- Run text-to-speech on a file...
- ...then make R graph a waveform of the audio.
- Spin up EC2 instances, run scripts via ssh.
- Convert Markdown to HTML
- Obtain data from APIs
- Publish results to APIs (WordPress)
- <http://dexy.it/filters>

Software

Documentation

You can also use DEXY to document your:

- web app (e.g. installation guide from bash script, screenshots from casper.js)
- command line tool
- library
- Desktop app via Sikuli?

Installation

Python (2.6 or 2.7) ✓

pip (or easy_install) ✓

```
pip install dexy
```

Write documents,
write scripts,
use dexty to tie it all together.

Example config file:

```
.md|jinja|markdown|easyhtml:  
- .py|idio  
- .py|idio|pycon|pyg:  
  - pycon: {  
    add-new-files: True,  
    record-vars: True  
  }  
- .csv
```

Demo

- generated file
- markdown source
- python source 1
- python source 2
- csv
- Run all with: `dexy`

Capture & Representation

- Dexy requires users to construct a reproducible workflow (using any number of command line/scriptable tools).
- Dexy's config files capture dependencies and instructions (i.e. which filters to apply to which files).

Portability

- Dexy itself is portable (in principle) to any platform which supports Python.
- Some filters will be unavailable on some platforms - if they depend on libraries/tools not supported or with different behavior.
- Dexy is flexible - we can generate portability reports or warn users.

Document Linkage

- Dexy was designed for this.
- Include whole documents, or sections of documents.
- Dexy's helper library works with variety of templating tools, including Jinja.
- Dexy is designed to work with assets in input files and those generated as side-effects of running scripts.

Archival

- Dexy's minimal approach makes it easy to upgrade projects to work with currently available software.
- Dexy's working files and logs can be added to a project repository to record a snapshot of a particular run.
- Dexy is highly extensible - can generate reports/archives including software used.

Thanks

Should Dexy support your tool?

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