qidicom

Release

May 03, 2017

Contents

CHAPTER 1

Synopsis

qidicom provides a facade for DICOM file interaction.

API http://qidicom.readthedocs.org/en/latest/api/index.html

Git github.com/ohsu-qin/qidicom

CHAPTER 2

Feature List

1. Python logging configuration.
2. Common command utility functions.
3. Collection data structures and utilities.
4. File helper functions.

CHAPTER 3

Installation

Install the `qidicom` package with Python pip:

```
pip install qidicom
```

CHAPTER 4

Usage

Run the following command for the utility options:

```
lsdicom --help
```

CHAPTER 5

Development

See the qipipe Development Guide for project download, testing and documentation.

API Documentation

hierarchy

class qidicom.hierarchy.**ImageHierarchy**(**files*)

Bases: qiutil.dictionary_hierarchy.DictionaryHierarchy

ImageHierarchy wraps the DICOM image subject/study/series/image hierarchy.

:param the input DICOM files

__init__(**files*)

:param the input DICOM files

add(*ds*)

Adds the subject-study-series-image hierarchy entries from the given DICOM dataset.

Parameters **ds** – the DICOM dataset

qidicom.hierarchy.**group_by**(*tag*, **files*)

Groups DICOM files by the given tag description. Subtraction images, indicated by a SUB DICOM Image Type, are ignored. The tag can elide blanks, e.g. 'SeriesNumber'.

Parameters

- **tag** – the DICOM tag
- **dicom_files** – the DICOM files or directories

Returns a {tag value: [DICOM file names]} dictionary qidicom.hierarchy.**read_hierarchy**(**files*)

Returns the ImageHierarchy for the DICOM files in the given locations.

Parameters **files** – the files or directories to walk for DICOM files

Returns the image hierarchy

Return type qiutil.image_hierarchy.ImageHierarchy

meta

class qidicom.meta.**Editor**(***edits*)

Bases: object

DICOM tag editor.

Creates a new DICOM tag editor.

Parameters **edits** – the edits tag value modifications

__init__(***edits*)

Creates a new DICOM tag editor.

Parameters **edits** – the edits tag value modifications

edit(*dataset*)

Applies this editor's edits tag value modifications.

Parameters **dataset** – the pydicom dicom dataset object

qidicom.meta.**select**(*ds*, **tags*)

Reads the given DICOM dataset tags.

Parameters

- **ds** – the pydicom dicom object
- **tags** – the names of tags to read (default all unbracketed tags)

Returns the tag name => value dictionary

reader

class qidicom.reader.**DicomHeaderIterator**(**dicom_files*)

Bases: *qidicom.reader.DicomIterator*

DicomHeaderIterator is a generator class for reading the pydicom non-pixel data sets from DICOM files.

__init__(**dicom_files*)

class qidicom.reader.**DicomIterator**(**dicom_files*, ***opts*)

Bases: qiutil.file.FileIterator

DicomIterator is a generator class for reading the pydicom data sets from DICOM files.

Parameters **dicom_files** – the DICOM files to include

__init__(**dicom_files*, ***opts*)

Parameters **dicom_files** – the DICOM files to include

qidicom.reader.**iter_dicom**(**dicom_files*)

Iterates over the DICOM data sets for DICOM files at the given locations.

Parameters **`dicom_files`** – the DICOM files or directories containing DICOM files

`qidicom.reader.`**`iter_dicom_headers`**`(`**dicom_files*`)`

Iterates over the DICOM headers for DICOM files at the given locations.

Parameters **`dicom_files`** – the DICOM files or directories containing DICOM files

writer

`qidicom.writer.`**`edit`**`(`**in_files*, ***opts*`)`

Edits the given DICOM files. The *dest* option can be either the destination directory path or an output file namer function. If *dest* is a directory path, then the output file location is a file in the given destination directory with the same unqualified file name as the input file. If the *dest* option is a function, then the output file location is the result of calling that function with the input file path as an argument. The default is to edit the file in-place.

Parameters

- **`in_files`** – the input DICOM files or directories containing DICOM files
- **`opts`** – the following options:
- **`dest`** – the destination directory or file namer function

Yield the :meth‘qidicom.reader.next‘ pydicom dicom object

Python Module Index

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