**DICOM Convertor**

**Introduction**

DICOM Convertor is a pure python project working with DICOM files. It contains:

* d2n, convert DICOM files to nifti format.
* n2d, convert nifti file to DICOM files.
* edm, extract DICOM metadata.
* m2d, convert mgz to DICOM files

It convert 2-D DICOM files into a 3-D nifti file without losing metadata of DICOM files.

**Prerequisites**

* Python 2.7. 3.4 or later
* Dependencies: pydicom, numpy, nibabel, operator, sys, glob, os

**Method Summary**

These are the description of functions below.

d2n

Read a sequence of 2-D DICOM slices then write these into a 3-D nifti format file.

The input DICOM slices should be continuous. The number of output empty DICOM files equal to the number of input DICOM slices. New dimension of output nifti file is the number of slice.

* Input: DICOM files
* Output:
  + A nifiti file
  + Empty DICOM files ( keep metadata)

n2d

Read a 3-D nifit file and write it pixel data to empty DICOM files. Get same number of 2-D DICOM files with both pixel data and metadata. The output DICOM files are the same as the input of d2n.

* Input:
  + A nifti file
  + Empty DICOM files
* Output:
  + A sequence of DICOM files

Edm

Read single DICOM file, empty its pixel data but only keep metadata. If input is a DICOM folder, then only use the first DICOM file.

* Input: DICOM folder or single DICOM file
* Output: One empty DICOM file with only metadata left

m2d

Read pixel data of the mgz file then write it to empty DICOM file from Edm. Get 256 DICOM files with 256 X 256 resolution.

* Input:
  + A mgz file
  + A Empty DICOM file
* Output:
  + 256 DICOM files