

5/10/2016

Image Cropper Plugin



Platform project: Sarina Thomas

dkfz.

DEUTSCHES
KREBSFORSCHUNGSZENTRUM
IN DER HELMHOLTZ-GEMEINSCHAFT



50 Jahre – Forschen für
ein Leben ohne Krebs

Willkommen
im DKFZ!



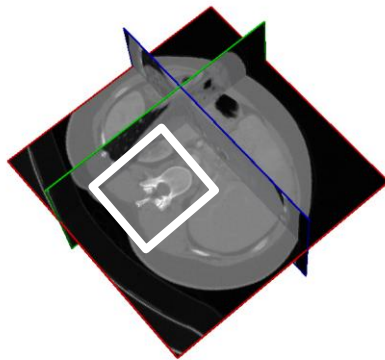
dkfz.

DEUTSCHES
KREBSFORSCHUNGSZENTRUM
IN DER HELMHOLTZ-GEMEINSCHAFT

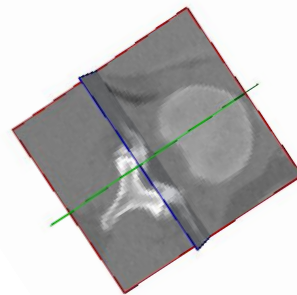


50 Jahre – Forschen für
ein Leben ohne Krebs

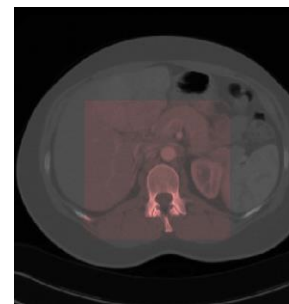
- Cropping of images
 - Extract region or volume of interest from image
 - Focus on relevant anatomical structures
 - Combine cropped regions as overlays
-
- Masking vs. Cropping



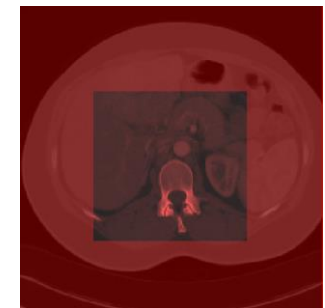
Whole volume



Cropped volume

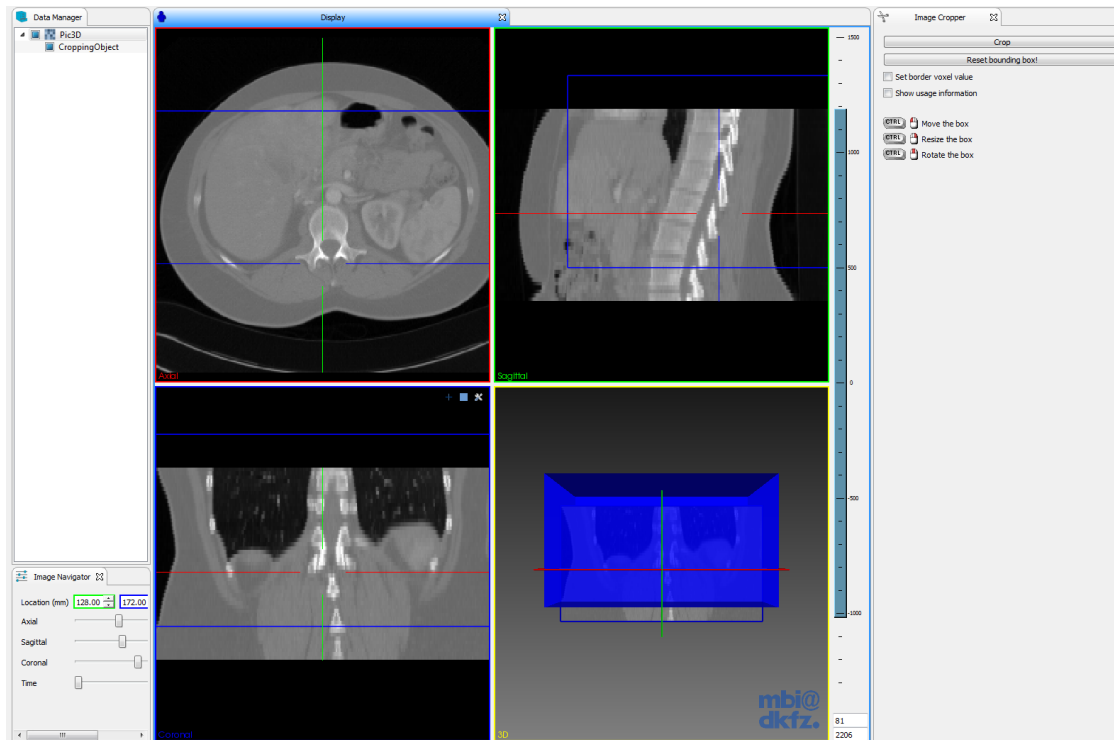


Cropping



Masking

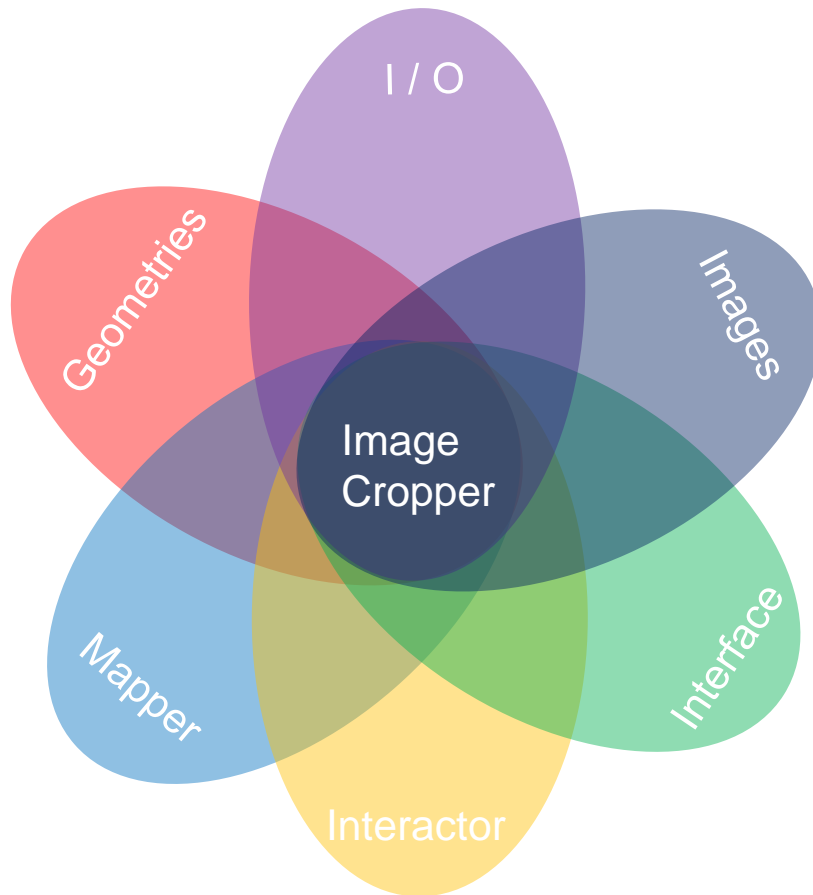
Demo: Current Image Cropper



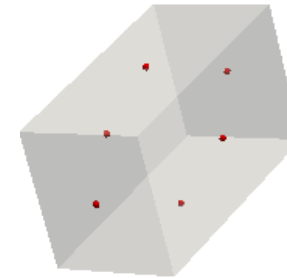
Current Image Cropper Plugin



Problems:

- Missing support for RGB
- Missing support for 4D
- Interaction broken
- Wrong information UI
- Bounding Box vanishes
- no read/write operation
- 'Set border pixel value' does not work properly
- Cone shows weird behavior on interaction
- Display warning message does not return if node is deselected

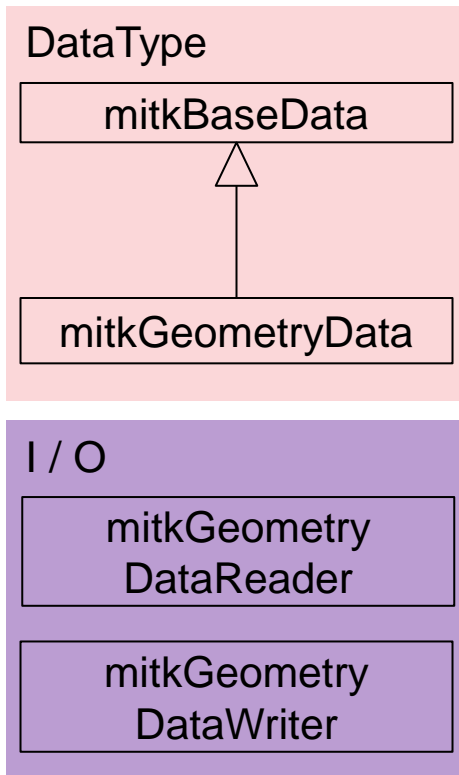


Concepts Bounding object

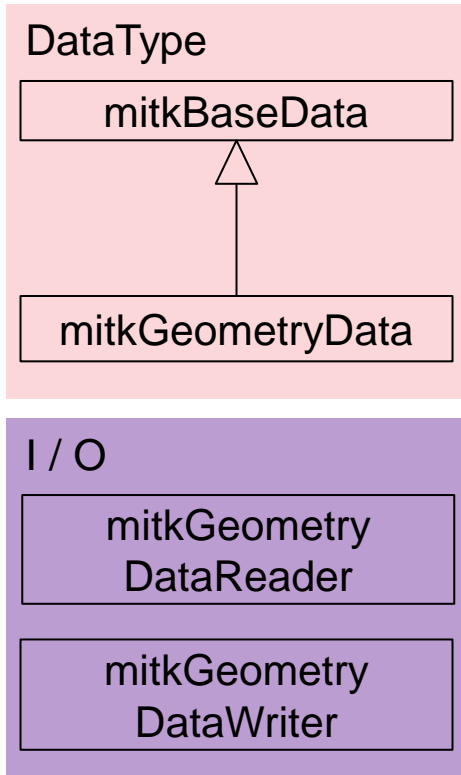


- vtkBoundingBoxWidget 
- New Module
BoundingShape 
- **GeometryData**

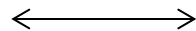
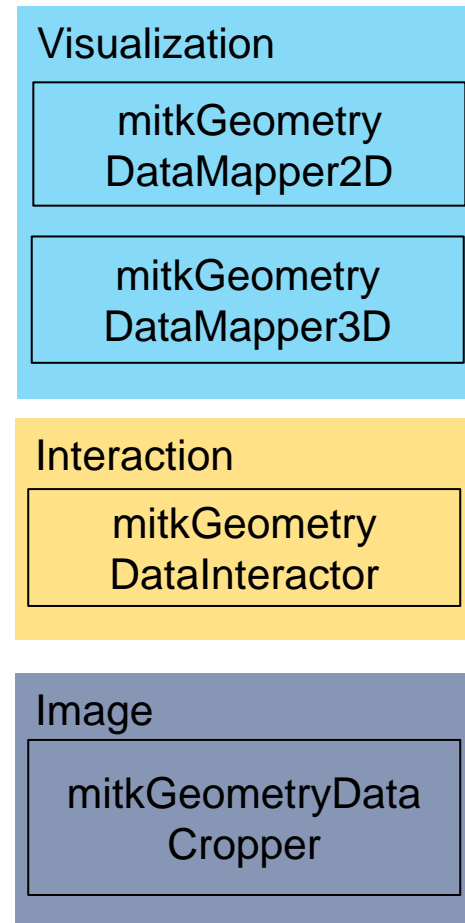
Core



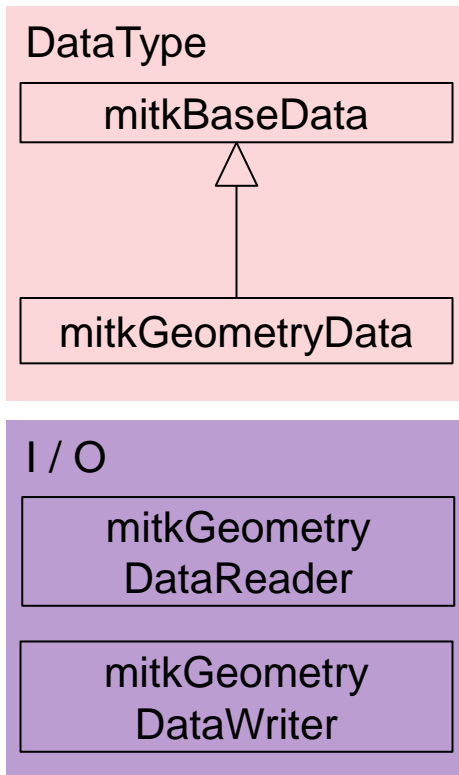
Core



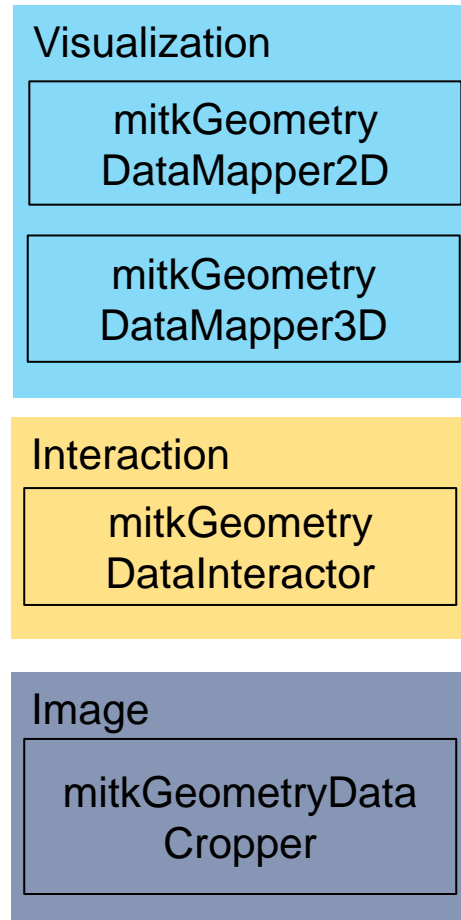
Modules



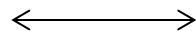
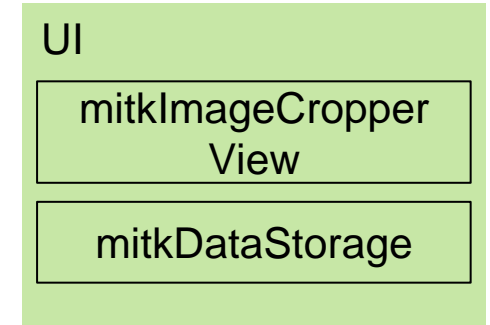
Core



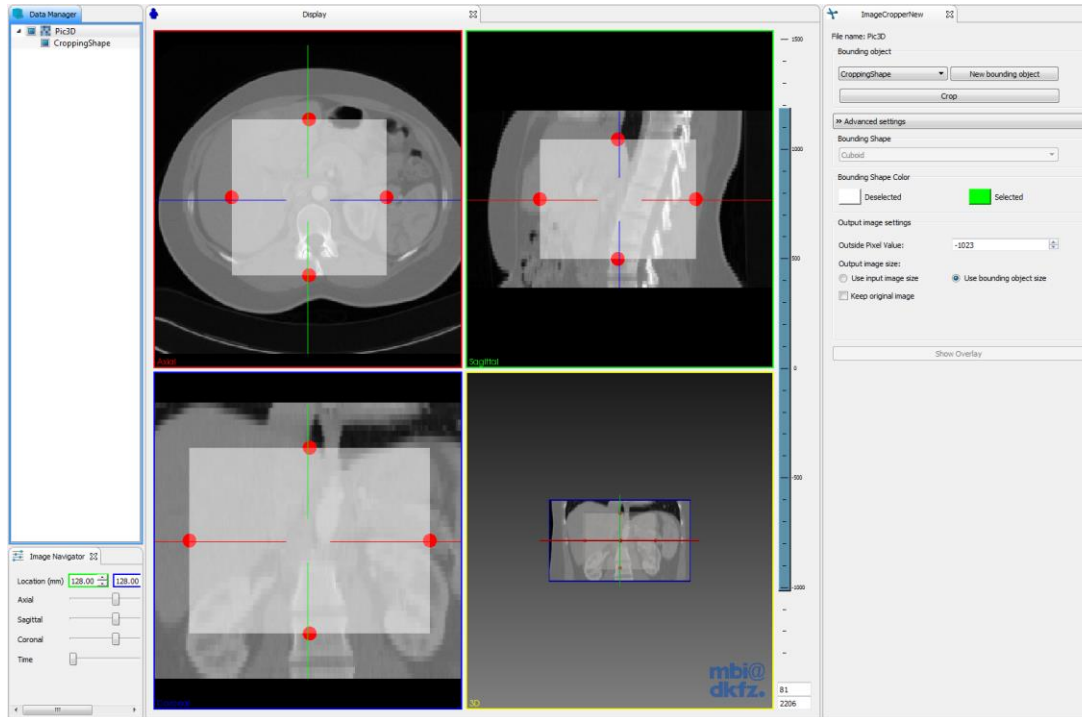
Modules



Plugins



Demo: New Image Cropper



New Image Cropper Plugin

Features:

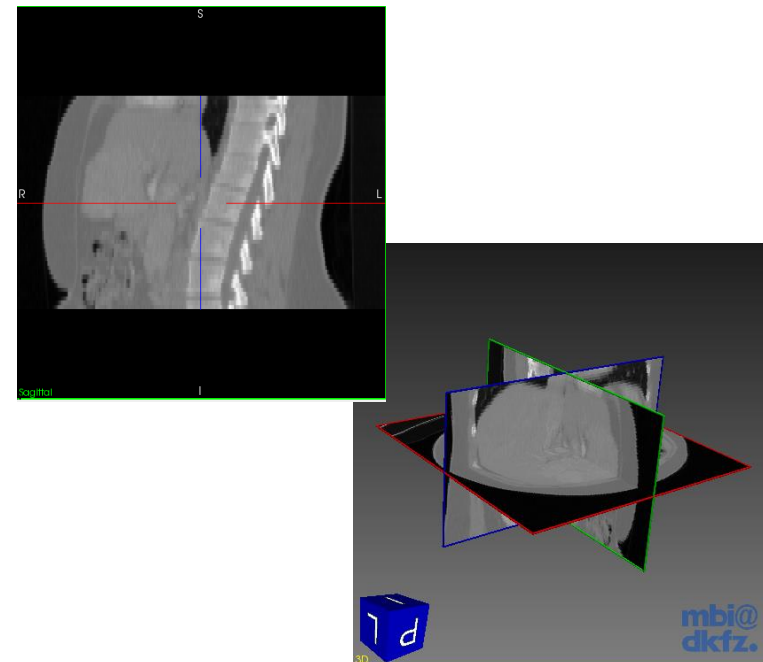
- Handle interaction
- BoundingBox handling and appearance
- Allows images to have 4D geometry or RGB
- Reader / Writer
- Pixel-aligned manipulation
- Multiple Bounding objects

- Rotation / different shapes → Masking vs. Cropping
- Uncommon image types
- Multilabel support

Image Categories

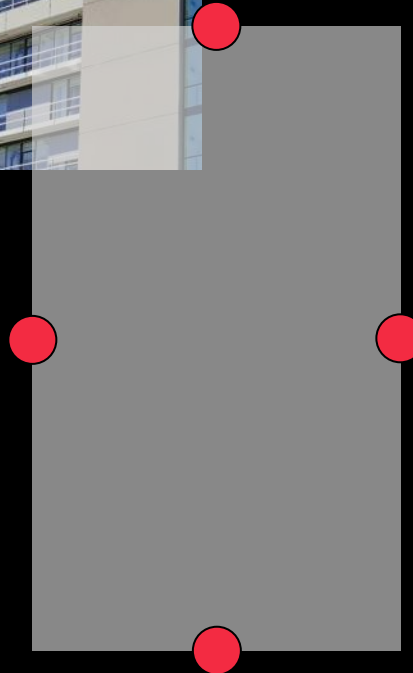
Geometry	Spacing, Extent, IndexToWorldTransform, Origin, ImageGeometry
Dimension	1D, 2D, 3D, 4D
Image Region	Index, Size
PixelType	<pre>typedef enum { UNKNOWNPIXELTYPE, SCALAR, RGB, RGBA, OFFSET, VECTOR, POINT, COVARIANTVECTOR, SYMMETRICSECONDNKTENSOR, DIFFUSIONTENSOR3D, COMPLEX, FIXEDARRAY, MATRIX } IOPixelFormat;</pre>
Component Type	<pre>typedef enum { UNKNOWNCOMPONENTTYPE, UCHAR, CHAR, USHORT, SHORT, UINT, INT, ULONG, LONG, FLOAT, DOUBLE } IOComponentType;</pre>

Overlays





Auf Wiedersehen
im DKFZ!



dkfz.

DEUTSCHES
KREBSFORSCHUNGSZENTRUM
IN DER HELMHOLTZ-GEMEINSCHAFT



50 Jahre – Forschen für
ein Leben ohne Krebs