



Starviewer
Medical Imaging Software

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FOSDEM^{'18}

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Over 10 years fulfilling the daily needs of
clinicians and researchers



2004 collaboration agreement



Research knowledge

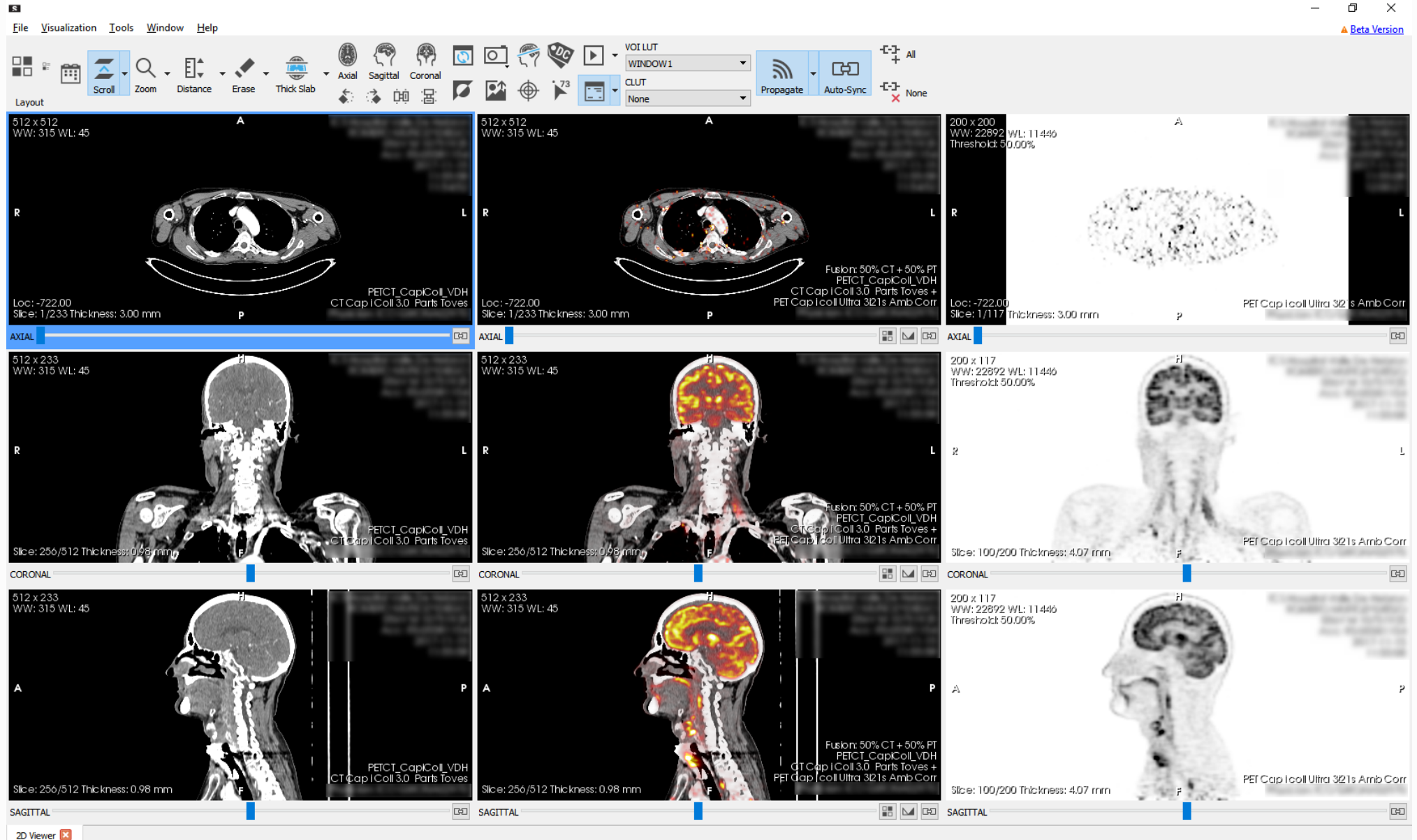


IDI
INSTITUT DE
DIAGNÒSTIC PER
LA IMATGE

Radiology experience

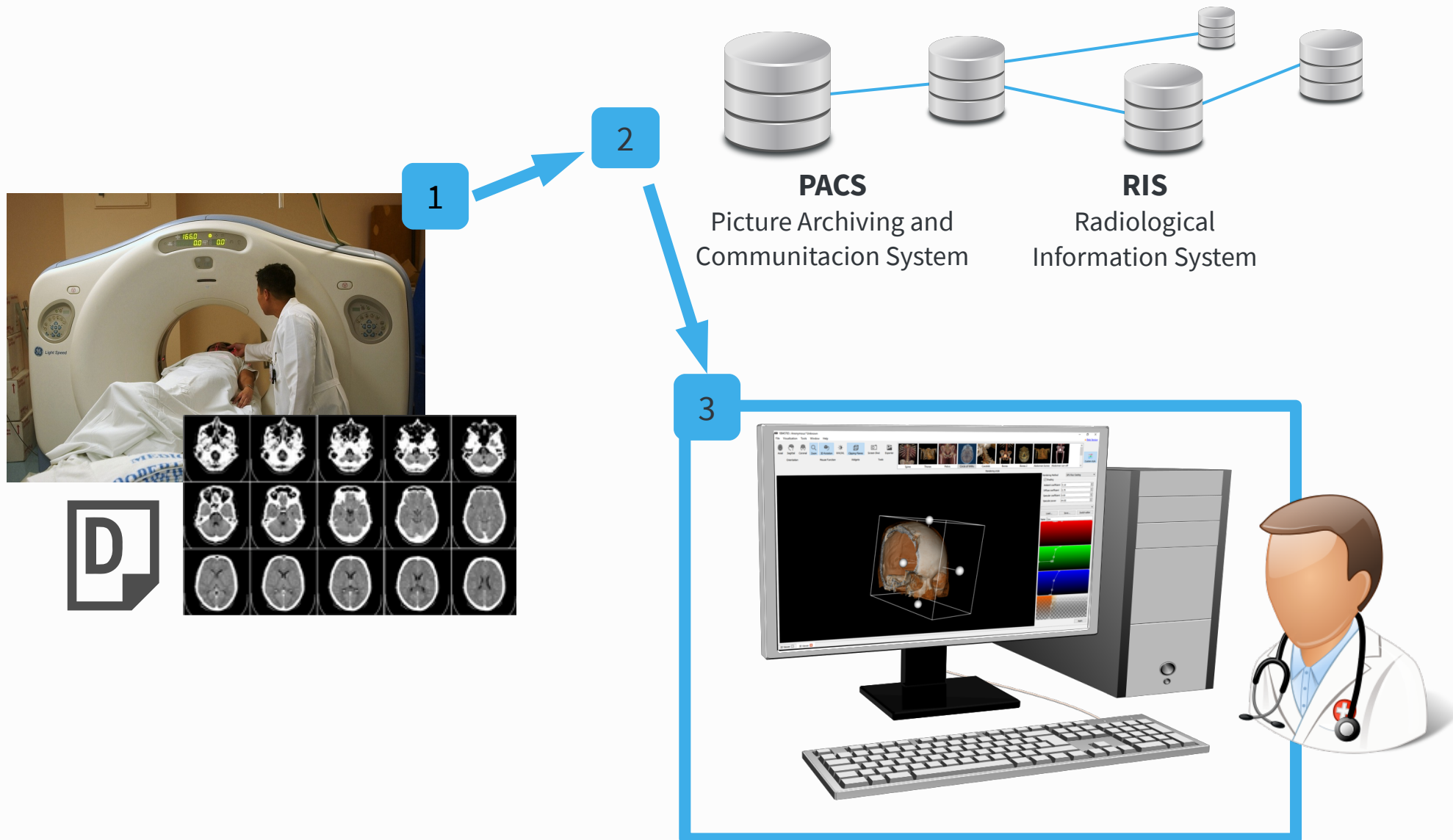


To develop THIS





Radiological viewers are essential in the medical imaging workflow

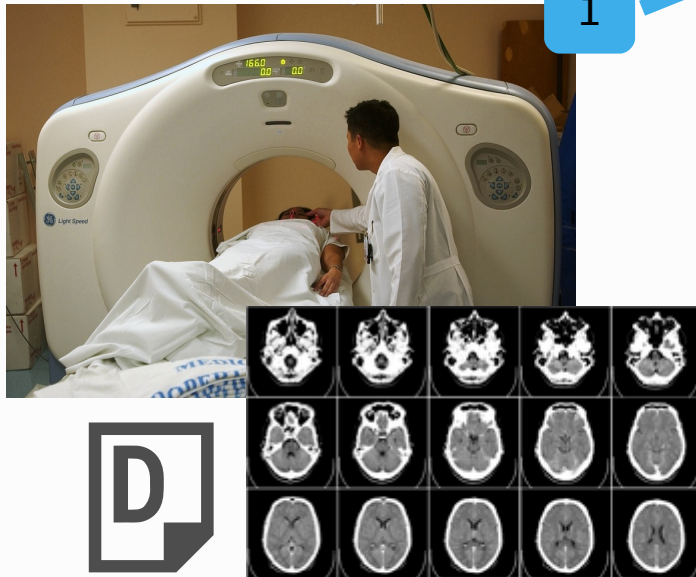




Radiological viewers are essential in the medical imaging workflow



DICOM



1

2

PACS
Picture Archiving and
Communication System

RIS
Radiological
Information System

3

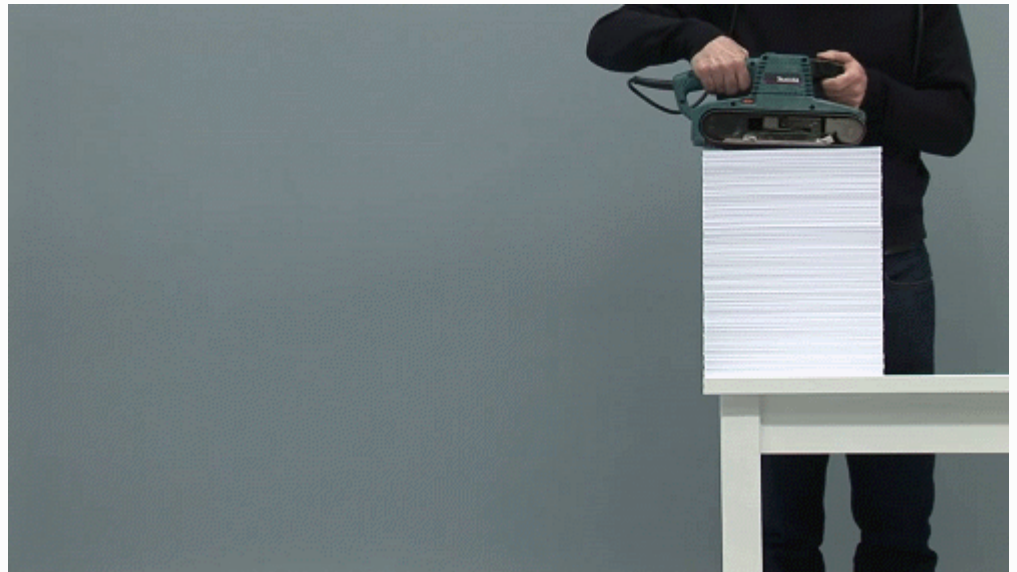




What is DICOM?

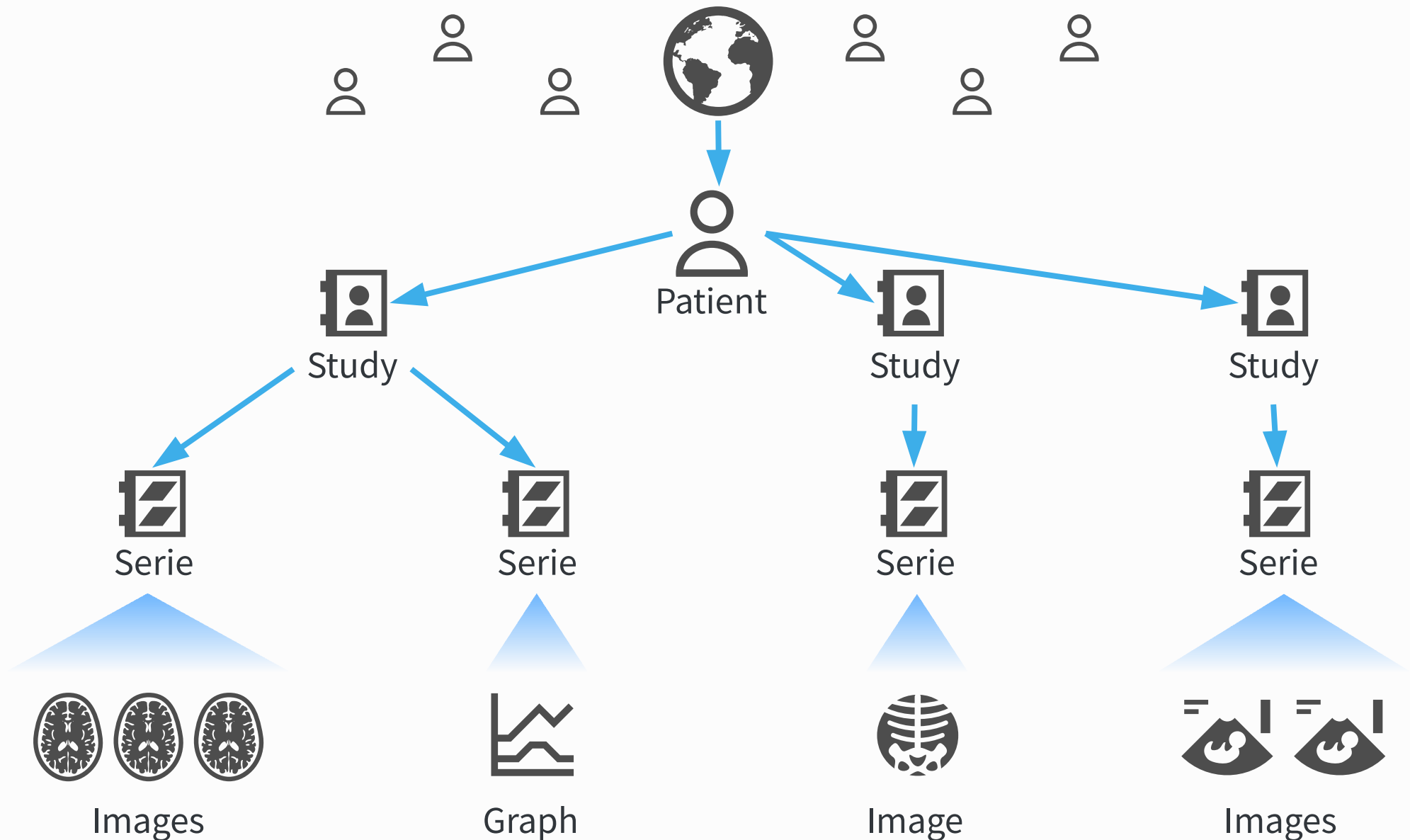


- Digital Imaging and Communications in Medicine
- Extensive medical imaging standard:
 - 21 parts
 - 145 MB of PDF's
 - 6074 pages
 - 30.4 Kg of paper
 - 68.3 cm tall



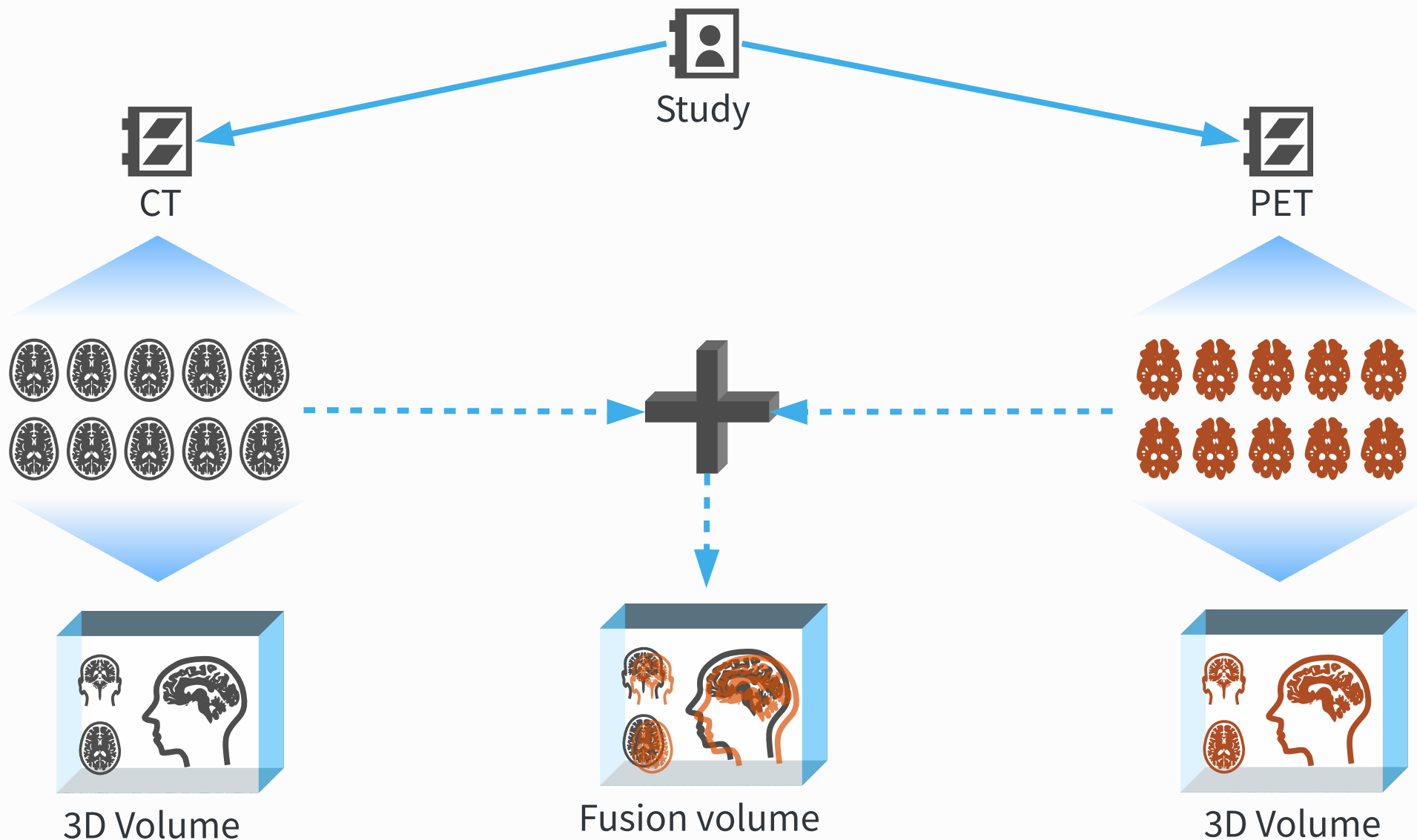


The world according to DICOM





From slices to volumes





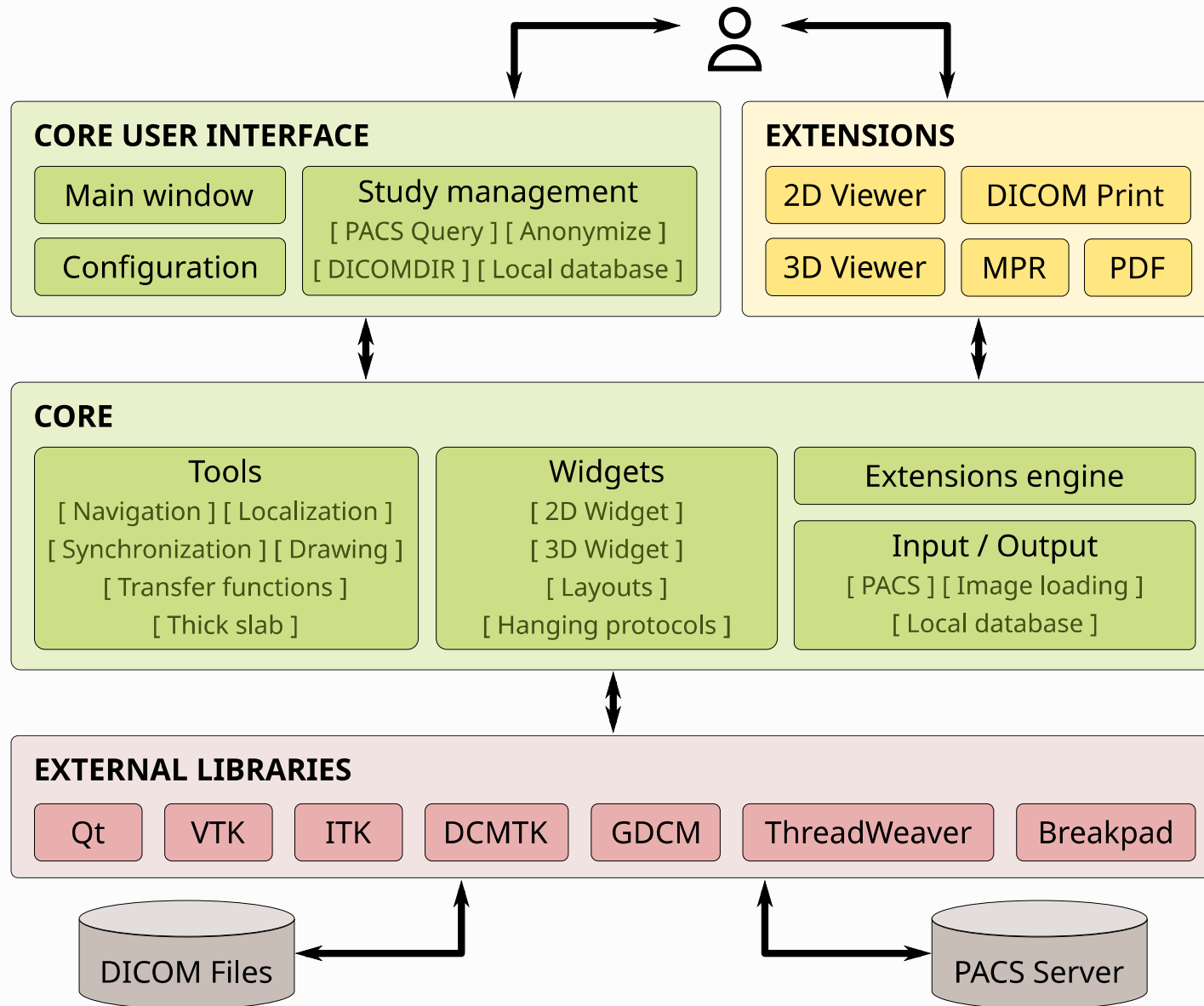
Starviewer technical information



- C++11
- Qt, VTK, ITK, GDCM, DCMTK, ThreadWeaver, Breakpad, easylogging++
- Qmake
- Multiplatform (Windows, macOS, GNU/Linux)
- x86 and OpenGL 3.2
- Multilanguage (ca, en, es)
- GPLv3+ since 2014

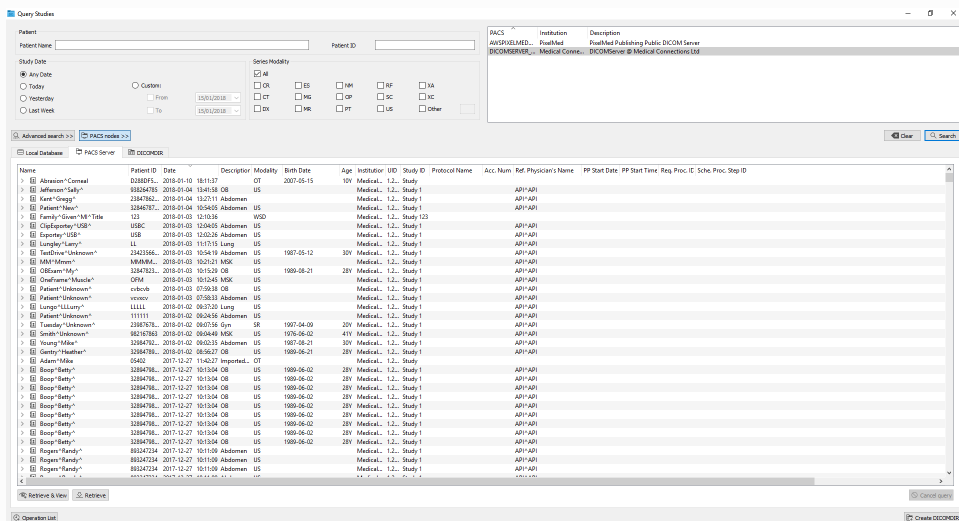


Architecture

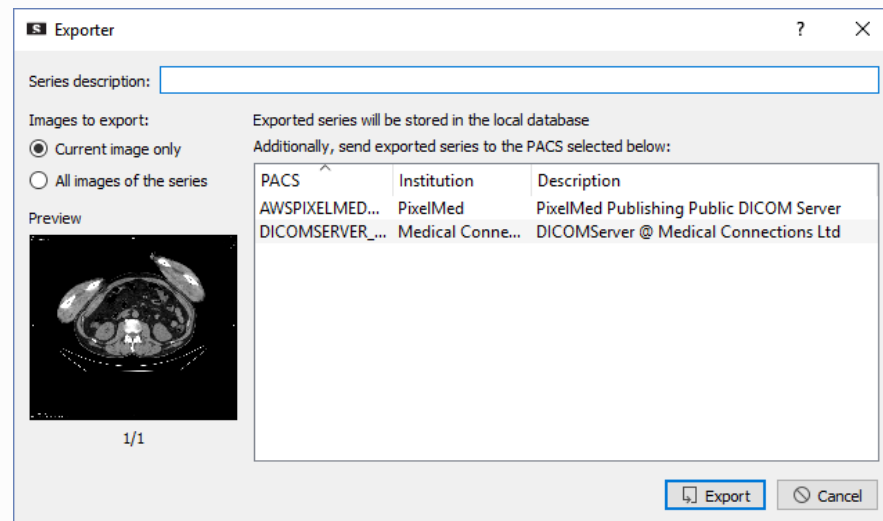




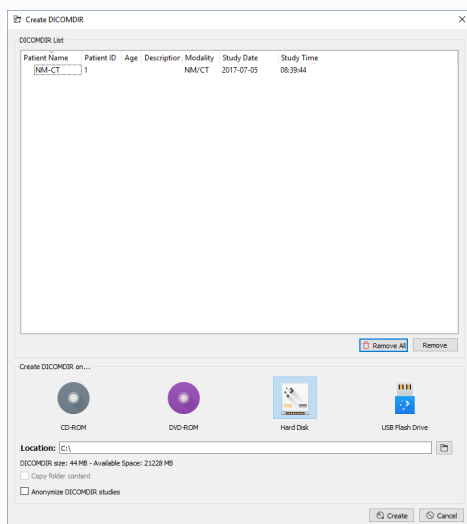
Core UI



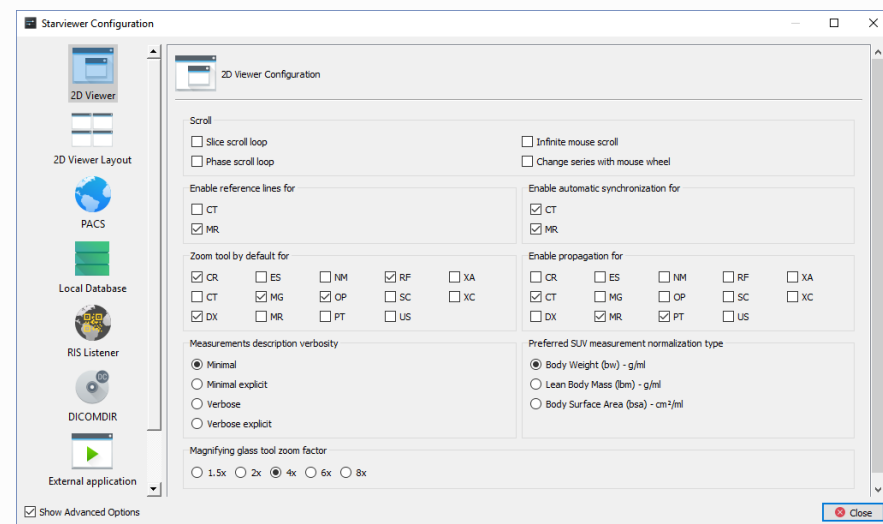
Study management



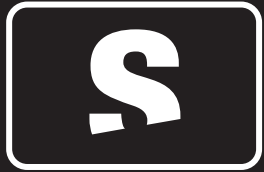
Series export



DICOMDIR export



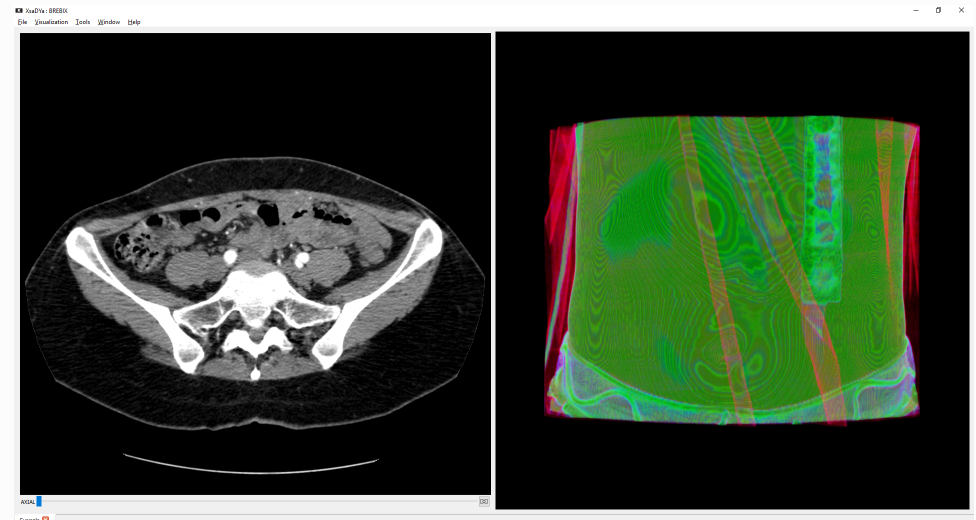
Configuration screen



Extensions



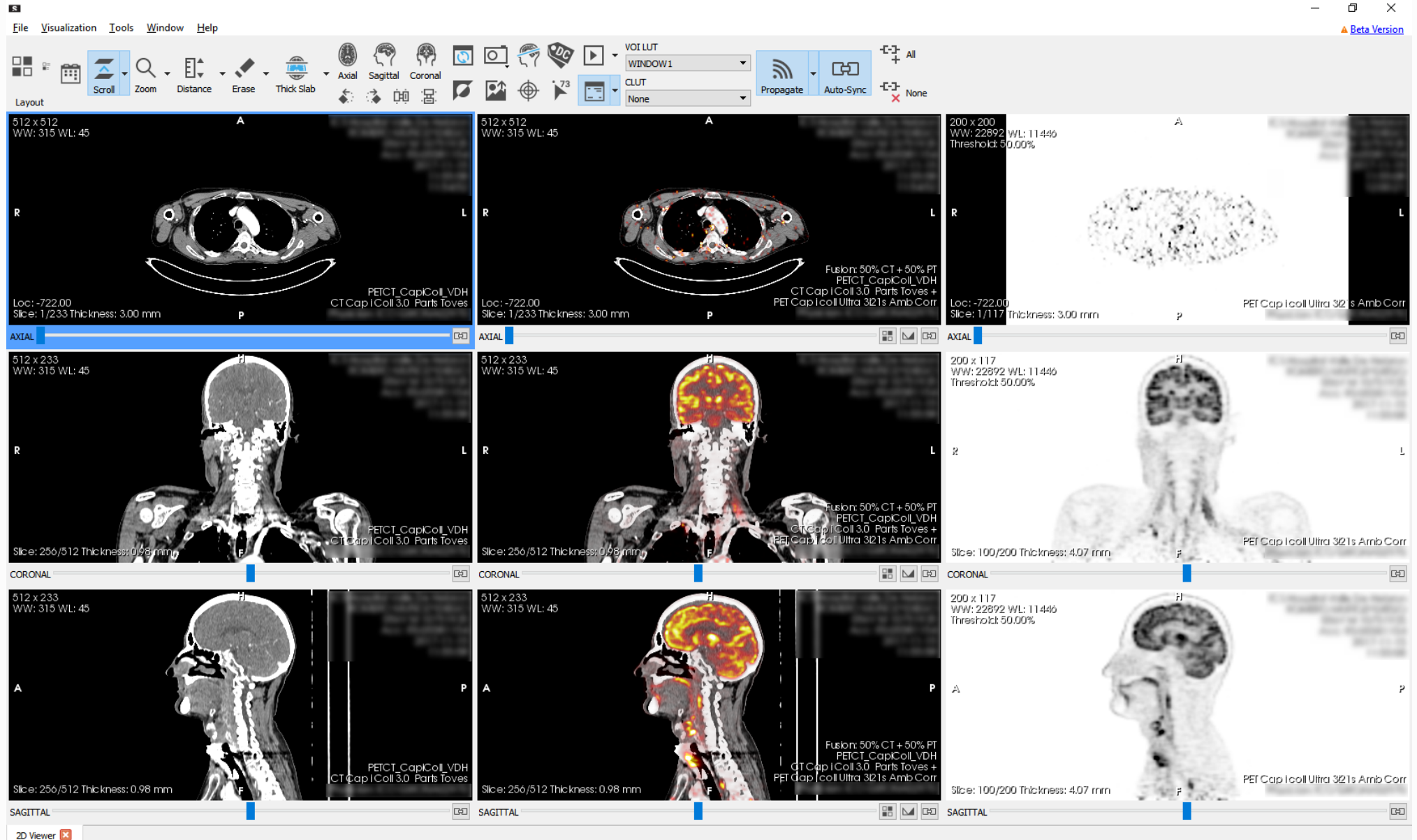
- Support general or specific workflows or features
- Currently 5 stable extensions
- New custom extensions can be easily created
- Static libraries
 - Recompile :(
 - But could use LTO :)
- Both static and dynamic in the future



134 lines of C++



2D viewer extension



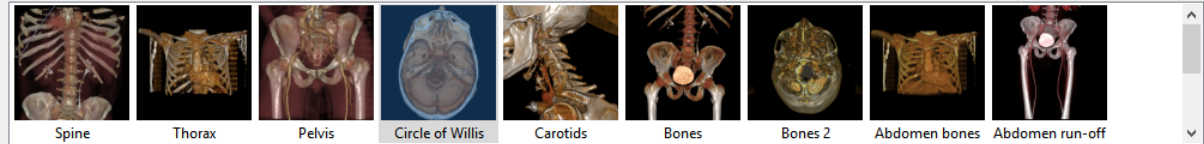
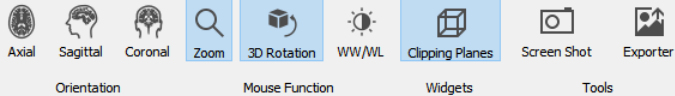


3D viewer extension

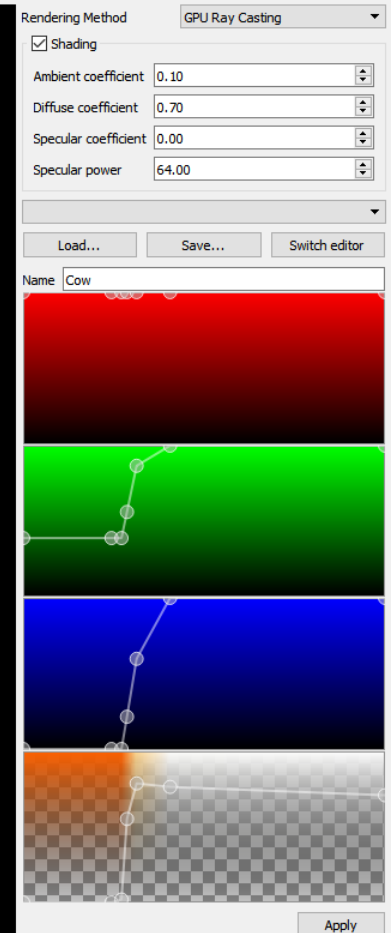
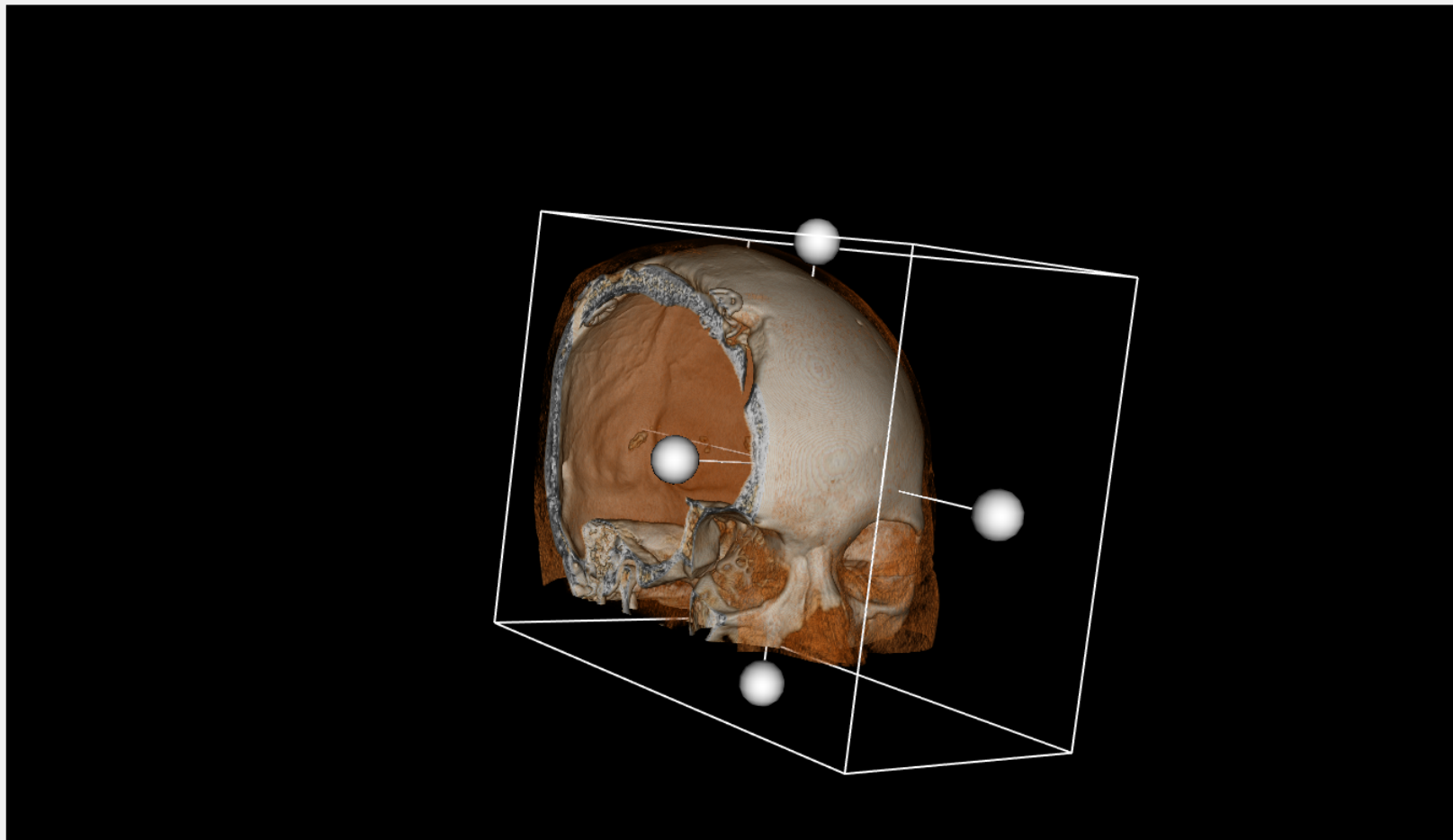


18845765 : Anonymous^Unknown

File Visualization Tools Window Help

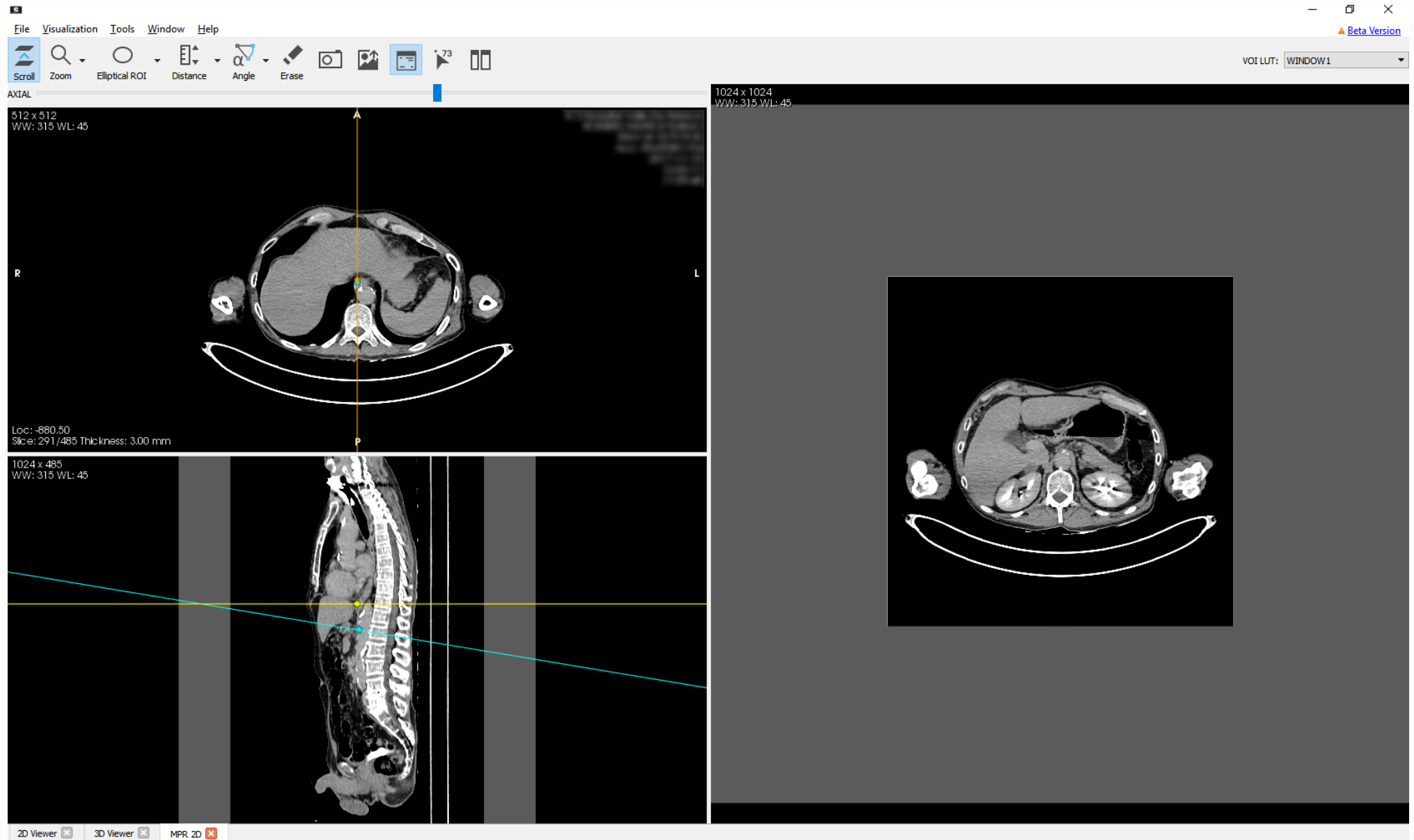


Rendering style





MPR extension





DICOM print extension



File Visualization Tools Window Help



[Beta Version](#)

Printer

DICOMPRINTER - DICOM printer

Hostname: 192.168.91.36 Port: 60496

Number of copies: 1

Print Settings

Print priority:

Medium:

Film Destination:

Film Settings

Layout:

Film Orientation:

Film Size:

Images to print

☒ Current Image

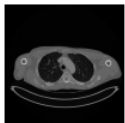
☐ Selection

From: 1

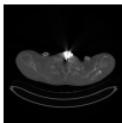
To: 233

Interval: 1

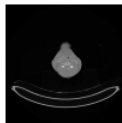
+ Add to print



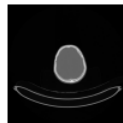
Series 5
image 232



Series 5
image 183



Series 5
image 142



Series 5
image 31

Pages to print: 4

Remove selection

Clear

Print

512 x 512
WW: 315 WL: 45

A

R

L

P

Loc: -419.00
Slice: 203/233 Thickness: 3.00 mm

Slice:

2D Viewer 3D Viewer MPR 2D DICOM Print

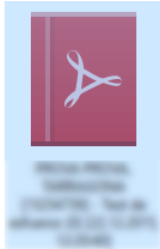


PDF extension



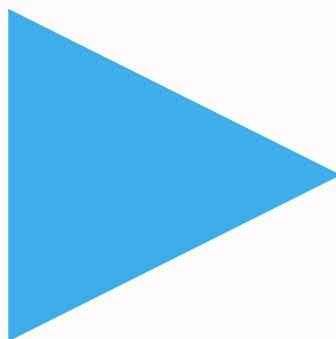
File Visualization Tools Window Help

— □ ×
▲ [Beta Version](#)





Demo





Links



- contact@starviewer.udg.edu
- <http://starviewer.org>
- <https://github.com/starviewer-medical/starviewer>
- DICOM: <https://www.dicomstandard.org/current/>

