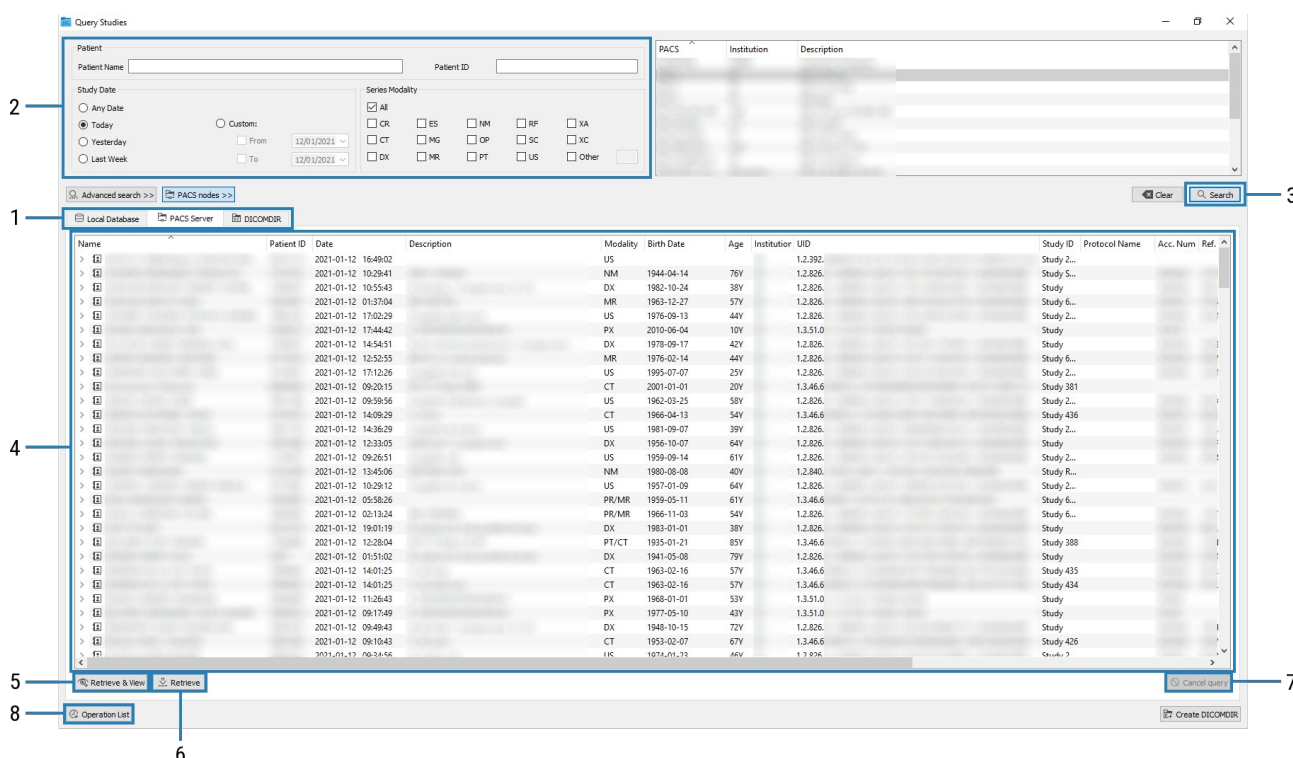




Starviewer is an application for the visualisation and navigation of medical images using the DICOM protocol. It supports different modalities: X-ray, CT, magnetic resonance, mammography, RF, ultrasound and others. It can communicate with any PACS or obtain images from external files.

## 1. How to find a study in the PACS

To look for a study in the PACS, go to the **File > PACS...** menu or use the **Ctrl+P** shortcut. A window like the following one appears:



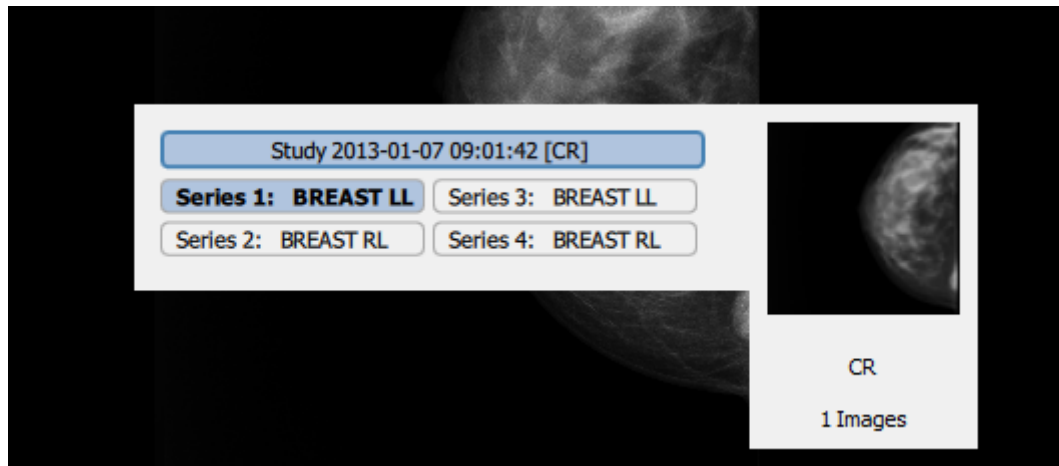
Then, the following actions can be carried out:

1. Check that **PACS Server** tab is selected.
2. Enter query parameters: patient name, study date, etc.
3. Press the **Search** button or the **Ctrl+P** key.
4. Select one or more studies from the list.
5. Press the **Retrieve & View** button so that the study is automatically retrieved and opened.
6. Alternatively, if the study only needs to be retrieved and not viewed, press the **Retrieve** button.
7. To cancel the query before it ends, press the **Cancel query** button.
8. The **Operation List** button allows checking the status of the retrievals.



## 2. Choose series of the study

1. Right-click inside a viewer.
2. Select a series from the list.



## 3. Contrast and brightness (windowing)

1. Hold down the right mouse button inside a viewer.
2. Drag the mouse horizontally (width/contrast) or vertically (level/brightness).

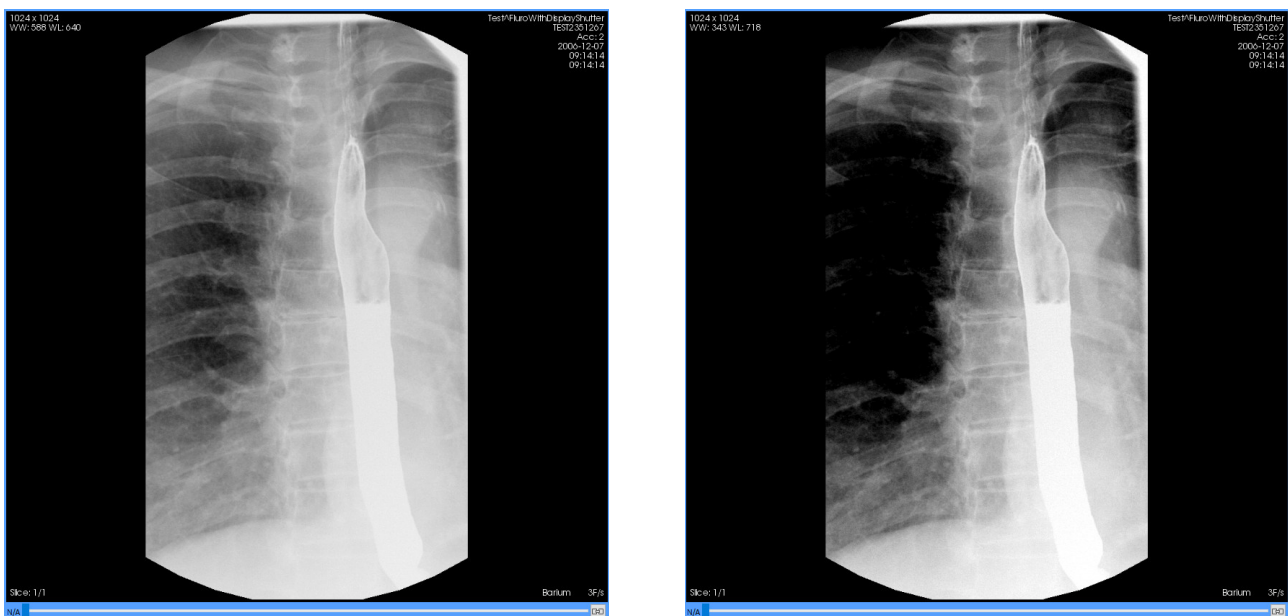






























Figure 1: Left: original DICOM window. Right: modified window.



## 4. The tools

-  Scroll and phase change (dragging the mouse with the left button or spinning the wheel).
-  Zoom (dragging with the left button).
-  Pan (dragging with the wheel).
-  WW/WL or windowing (dragging with the right button).
-  Magnify: it magnifies a region of the image (dragging with the left button).
-  Distance: it calculates the distance between two points.
-  TA-GT.
-  Angle: it measures an angle by setting three points.
-  Cobb angle: it measures an angle by drawing two lines that do not touch each other.
-  Elliptical ROI: it draws an elliptical ROI and calculates its area, mean and other data.
-  Polyline ROI: a ROI by setting the points manually.
-  Magical ROI: a ROI that adapts to shapes automatically.
-  Circle: it draws a circle and indicates its centre.
-  Arrow.
-  Erase/Erase all: they erase the drawings made with the previous tools.
-  Regular layout/Hanging protocols: they change the viewers' layout.
-  Related studies: it directly accesses other studies of the patient.
-  Axial/Sagittal/Coronal: they change the image reconstruction.
-  Rotations in 90° increments.
-  Horizontal and vertical flip.
-  Invert colour scale.
-  Restore the viewer to the initial state.
-  Reference lines: it shows the location of the current image in the other viewers.
-  3D cursor: it marks a point in a viewer and finds the same point in the other ones.
-  Voxel information: it displays the value of the voxel under the pointer.
-  It shows or hides textual information of the image in the viewer.
-  Screenshot of an image or the entire current series in image format.
-  It creates a new series in the study with the viewer's content and sends it to the PACS.








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## Starviewer 2.0

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### Quick start guide

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-  DICOM information: it displays all DICOM information in a floating window.
-  Auto-sync: it synchronises to the same position in space the viewers it can.
-  Manual synchronisation: synchronised viewers are moved the same distance.
-  Propagation: it synchronises some properties of the viewers.
-  Thick slab: it visualises a MIP with the desired thickness.