

DICOM Viewer

Manual

Written by: M. Gevantmakher

Version 1.2

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Introduction

Congratulations for the start of TI-jPACS. Now you get a very efficient program for archiving of medical images from the most different modalities in the international DICOM format. The image visualization functions serve particularly for not diagnostically viewing and the comfortable user-friendly management of the archived images.

Congratulations on selecting TI-jPACS system, which represents an efficient program for medical image archiving from different modalities of the international DICOM format. The application contains Image Visualization functions that allow users to archive images via reliable and user-friendly interface.

By using this application, hospitals, medical and rehabilitation centres have ability to adjust images, make changes and access database for obtaining information. They can share information between each other via Internet or Intranet.

1. Technical requirements

The installation of the TI-jPACS doesn't require special components. You install the program on any computer conforming to the following requirements:

- Intel Pentium III 800 MHz or AMD Athlon / Duron 1000 MHz processor
- Random access memory 256 MB or higher (better)
- 8 MB graphics adapter or higher
- CD- or DVD-writer
- Operating system: MS Windows 98, NT (SP6), Windows 2000 or XP

2. System overview

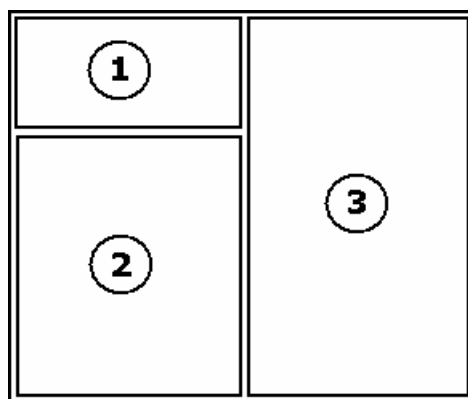


Illustration 1:

(1) Control buttons, (2) Series-Preview or DICOM-Dir-Tree preview, (3) DICOM-Viewer

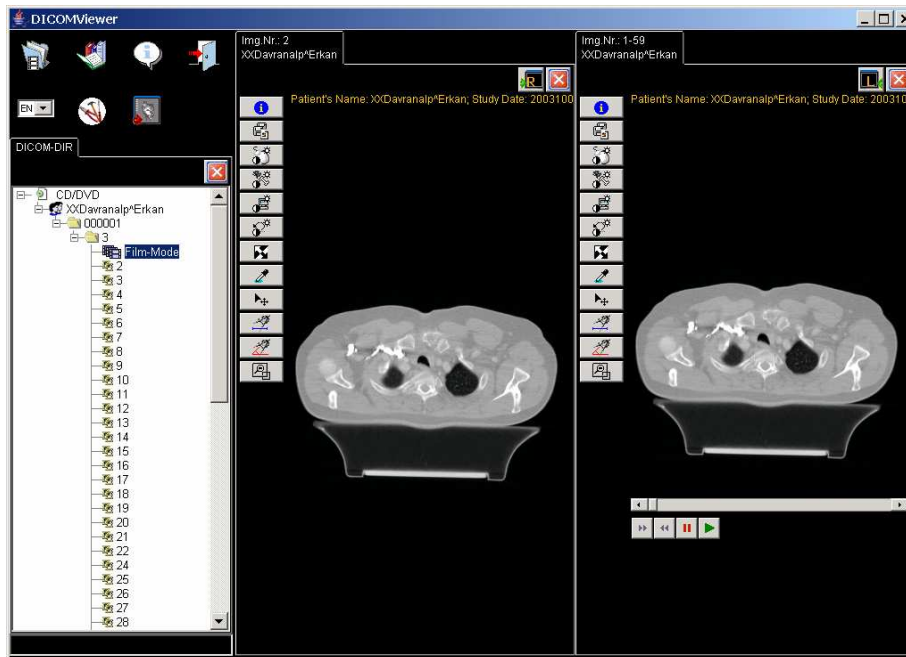


Illustration 2: DICOM Viewer

3. The buttons and their functions

The following images show you the buttons and their functions:

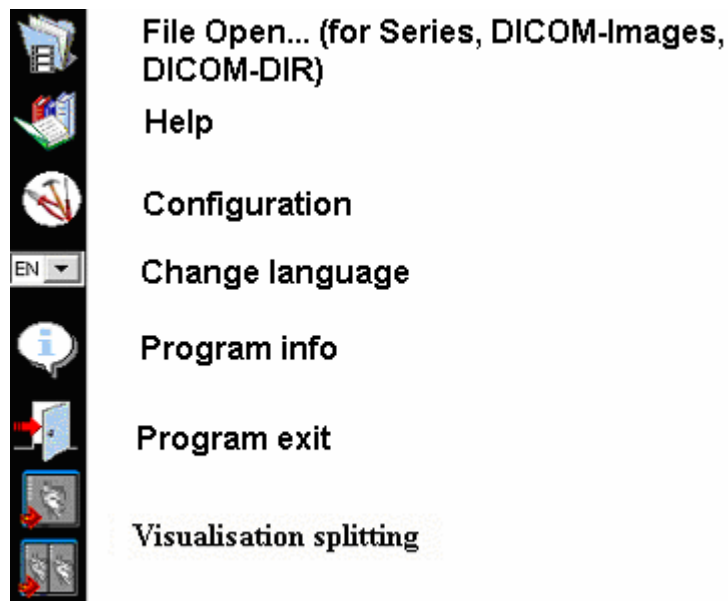


Illustration 3: control elements

4. Image management browser, DICOMDIR browser

The Image and DICOM-DIR management browser helps you with a partial selection of images; it sorts in patients, modalities and image series. The browser makes the current display and sorting of

images in the categorie "patients". It shows as a tree (Illustration 4).

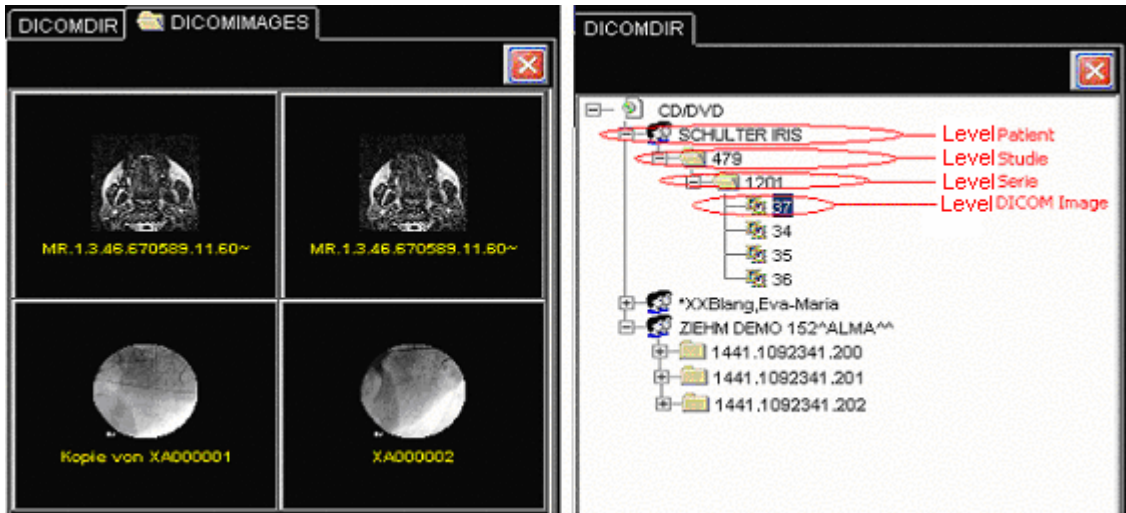


Illustration 4: image management browser (different views)

5. DICOM-VIEWER

The DICOM-Viewer is able to show you the DICOM-images in the complete picture mode (Illustration 5).

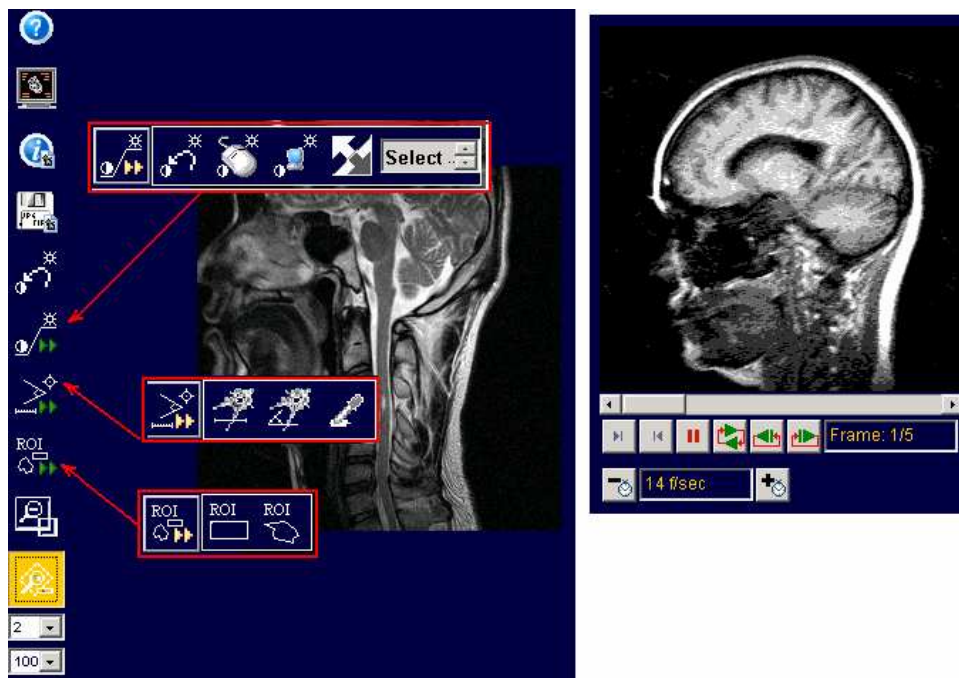


Illustration 5: DICOM-Viewer (example)

6. Visualization of DICOM-images with DICOM Viewer

If you want to view a DICOM-image with the DICOM-viewer, you should select it in the image management browser. Image will appear on complete picture mode. Alternatively, you may click on the favoured image in the preview window (with left mouse button).

Now you have opened the image in the DICOM-viewer. This integrated viewer offers you different options, which you can see in . For the appliance you have to attend the following scores:

- Measure the distance

- Activate the button [distance measurement]
- Move the mouse pointer to the starting place
- Press the right mouse button, moving the mouse to the favoured end point and release the button

- Goniometry

- Activate the button [goniometry]
- Move the mouse pointer to the starting place
- Press the right mouse button, move the pointer in the direction of the favoured goniometry and release the button
- Press the right mouse button again and move the pointer in the direction of the end point

- Measure the brightness and the contrast

- Activate the button [brightness and contrast]
- Press the right mouse button and with a slow vertical motion set the brightness (above for brightening [+], below for shading [-]). With a slow horizontal motion you are able to set the contrast (left for lower [-], right for higher contrast [+]).

- Magnifying glass

- Activate the button [magnifying glass]
- Select the favoured size
- Press the right mouse button und scale up the favoured array with a vertical and/ or a horizontal motion

- Re-establishment in the initial state

- Click the button [original-establishment]




















	Close a preview or complete picture window
	Shift image-frame to right position or to left position
	Look image information (DICOM-header, histogram)
	Draw "Information-overlays"
	Change the format of a image (JPEG, TIFF, AVI, BMP)
Filtering, contrast, brightness, invert	
	
	Set brightness and contrast Apply settings in all frames (only with multi-frame RGB-images)
	Predefined windows for: bones, lunge, pelvis, brain, abdomen
	Automatic contrast and brightness control
	Establish the original image (contrast and brightness)
	Invert image
Measurements	
	
	Advise pixel-value
	Measure the distance
	Goniometry
	Zoom
	Scrolling (only if the image not complete visible)
 <input type="text" value="2"/> <input type="text" value="100"/>	Magnifying glass Intensity (2 - 5 fold) Size (pixel)
	Player options: go, back, stop, play 14 f/sec

Illustration 6: DICOM-viewer options

7. Viewing and playback of text or voice comments

TI-jPACS is able to read or play voice- or text- comments.

After the selection of Text-Comment you can see text editor frame () for viewing of text comments.

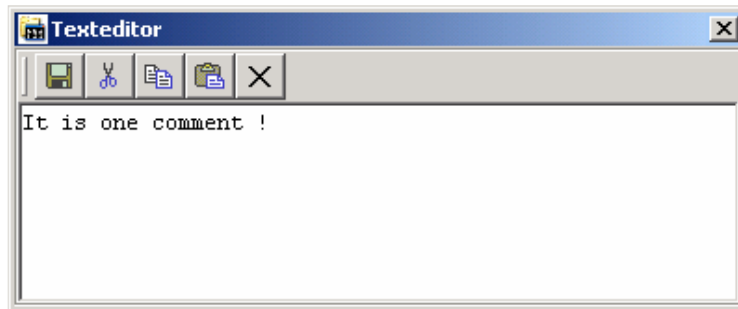


Illustration 7: Text editor

After the selection of [Audio-Comment]-you can see player frame () for playback of voice comments.

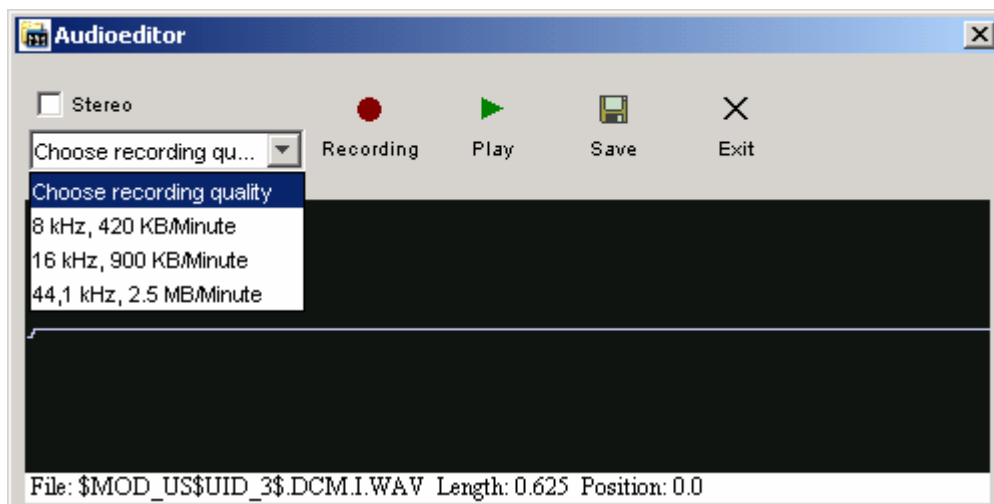


Illustration 8: Voice player frame

8. DICOM Conformance

SOP Class Name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2

MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Ultrasound MultiFrame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Multi-frame Greyscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-frame Greyscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Multi-frame True Colour Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radio fluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intra Oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Intra Oral X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
VL Endoscope Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Hard Copy Greyscale Image Storage	1.2.840.10008.5.1.1.30
Hard Copy Colour Image Storage	1.2.840.10008.5.1.1.29
Transfer syntaxes for lossy or lossless compressed DICOM-Images:	
RLE (lossles) **(only with RLE decoder-plug-in)	1.2.840.10008.1.2.5
JPEG (lossles, lossy) ** (only with JPEG decoder-plug-in)	1.2.840.10008.1.2.4.50 -....- 1.2.840.10008.1.2.4.81
JPEG 2000(lossles, lossy) ** (only with JPEG 2000 decoder-plug-in)	1.2.840.10008.1.2.4.90 1.2.840.10008.1.2.4.91

9. Warranty, abolishment of the program bugs

We don't guarantee an error-free function of the software. The abolishment of errors is in producer's discretion.

10. Liability

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