medDream™
by Softneta Company

HTML5 DICOM VIEWER 8.4.0
PRODUCT SPECIFICATION

Function	Description	v8.4.0
Regular features		
Window Width/Level	Image window level manipulation using the mouse.	**+**
W/L Presets	Possibility to select from a list of available Window Width/Level presets.	**+**
Pan	Moving the image allows you to position images within the viewport.	**+**
Zoom	Increase/decrease the image. Zoom to the selected area option.	**+**
Scroll	Scroll through the images of the series by using the mouse wheel, dragging vertically, or with keyboard hotkeys.	**+**
Rotate/Flip	Rotate the image right/left and flip it horizontally/vertically with the possibility to revert the image to its original orientation.	**+**
Magnifier	Magnify (enlarge) a certain area of the image.	**+**
Measurements		
Line	Distance between two points.	**+**
Angle	Creating and measuring the angles between three points.	**+**
Cobb angle	Angle measurement between two lines.	**+**
Polyline	Distance from a set number of points.	**+**
Area	Area measurement from a set number of points. Measure its area, min, max, mean, and standard deviation values.	**+**
Ellipse	Measure an ellipse area, min, max, mean, and standard deviation values.	**+**
Rectangle	Measure a rectangle area, min, max, mean, and standard deviation values.	**+**
Volume	Volume measurement using circles created from a set number of points.	**+**
Height Difference	Measure the vertical distance and angle between the horizontal line and the line connecting the points.	**+**
CTR	Measure the cardiothoracic ratio (CTR) to estimate a heart size.	**+**
Flatfoot	Measure the longitudinal arch of the foot to detect the longitudinal flatfoot.	**+**
Goniometry	Measure the lengths of the femur, tibia, and femoral-tibial angular deformities.	**+**
TT-TG distance	Measure the tibial tuberosity to trochlear groove distance for quantifying the knee patellar instability.	**+**
Spine labeling	Tool to mark the vertebrae of the spine. Possibility to exclude labels, and mark pathological vertebrae: T13 and/or L6. Measure Spinal balance.	**+**
Vertebra Angle	Measure an angle between the user-drawn vertebra axis and the horizontal axis of the image.	**+**
Time-intensity curve	Measurement which allows for visualization of the lesions' behavior by plotting the ROI intensity values over time after the administration of contrast material.	**+**

ROI	Measurement of images of the size and shape of a particular object.	**+**
Closed Polygon	The ROI with curved lines.	**+**
Flexpoly	Mark the flexible region of the image for which the area is calculated. Measure its area, min, max, mean, and standard deviation values.	**+**
Pencil	Mark the area of the image with a free drawing.	**+**
Arrow	Mark the area of interest on image, video, or multi-frame.	**+**
Text	Text fields are placed on the image for writing text notes.	**+**
Continuous measurement	Possibility to activate the tool to repeat measurements several times.	**+**
Repulsor	The tool to adjust Closed Polygon.	**+**
Intensity	Image intensity in Hounsfield units (HU).	**+**
Show Angles	Show all angles between intersecting lines.	**+**
Horizontal line	Horizontal tool for NM modality studies.	**+**
Ruler	Show the rulers at the bottom and on the left side of the viewport.	**+**
Calibration line	Change the scale of measurement.	**+**
STD	The average value and standard deviation of pixels in a square area of 10 by 10 mm.	**+**
Delete	Remove selected or all measurements of an active image.	**+**
Save Annotation	Saving the measurements. Please contact us directly to check if your PACS can support the saving annotation function.	**+**
Segmentation tools		
Segmentation	Tools for marking the regions of interest in medical images, saving them as RTSTRUCT.	**+**
Bounding Box	The tool allows marking the region of interest by drawing the bounding rectangular around it. Possibility to mark 2D or 3D bounding box segments.	**+**
Smart Paint	Marking the region of interest by drawing the contour on the image with free drawing tools. Filling the region of interest by using smart paint tools with adjustable: radius and sensitivity. Possibility to use the tools in both 2D and 3D modes.	**+**
Viewport features		
Scroll activator	Possibility to activate/deactivate the simultaneous scrolling feature for the active viewports.	**+**
Ellipse ROI propagation	Possibility to propagate the measurement (Ellipse) ROI to other open viewports.	**+**
Copy measurement values	Possibility to copy measurements values to the clipboard.	**+**
Viewport to clipboard	Possibility to copy viewport content to the clipboard using PNG compression format from the viewport.	**+**
Image to clipboard	Possibility to copy original resolution image to the clipboard (no annotations and manipulations).	**+**
Save the viewport as a secondary capture	Possibility to save viewport content as DICOM secondary capture in new series.	**+**
Quick access controls	Possibility to use controls for quickly accessing images with additional data. Quick access controls Scrollbar, Chevron buttons, Key objects, Annotations.	**+**

Quick save KO and PR	Fast saving the measurements and Key Objects. Please contact us directly to check if your PACS can support the saving annotation function.	**+**
Layout features		
Layout	Select from different types of layouts to view up to 16 DICOM instances at the same time.	**+**
Thumbnail position	Change the position of thumbnails on the screen.	**+**
Full Screen	The possibility to switch to a full-screen view.	**+**
Multi-image/series	Select how many images/series can be loaded in the active viewport.	**+**
Multiple studies support	Ability to open multiple studies and compare images of the same patient, or different patients.	**+**
Split-view mode	View images from multiple studies and compare them side-by-side.	**+**
Split into 2 Panels	Possibility to split viewports into 2 panels.	**+**
Patient History	Easy access to the entire Patient History. Possibility to filter the studies by ID, Name, Modality, Description, etc. Unique Year filter to filter the studies by the year.	**+**
Multi-monitor support	MedDream Chrome extension is used for automated adjusting.	**+**
Hanging Protocols	Configurations for arranging and displaying medical images in layout.	**+**
Manipulation features		
Reference lines	Overlaying reference lines allow for indicating the location of an image slice on another image of an intersecting plane.	**+**
Crosshair	Represents the intersecting planes of the selected point in the study.	**+**
Align & Lock	The left or right image alignment and locking function while applying zoom or pan actions. Possibility to move labels and buttons to the opposite side.	**+**
Link scrolled series	The modes of linking the series: Disabled, Manual, Automatic and Distance mode. The possibility to enable/disable simultaneous scrolling for each viewport.	**+**
Sync Windowing	Optional same-series windowing synchronization.	**+**
Sync actions	Sync Windowing, Color Palette, Pan, and Zoom actions for the same series or for all viewports.	**+**
Color palette	Possibility to apply color palette for monochrome DICOM images.	**+**
Histogram	Showing how the data is distributed across different values for visual Windowing (W/L) changes. Y-axis zooming.	**+**
Cine Mode/Multi-frame creation	Puts all series of images into one movie and enables scrolling through images quickly.	**+**
VOI LUT	Possibility to select and apply VOI LUT: non-linear transformation stored by medical modality.	**+**
Reset	Resetting the image's view to the original state.	**+**
Supporting functions		
Search engine	Search, filter studies, and open them for viewing.	**+**
Keyboard shortcuts	Possibility to customize default shortcuts, and shortcuts per user. The keyboard shortcuts allow the users to quickly change tools and interact with the data.	**+**
Orientation labels	Labels on the edges of the images clearly indicate how the patient is oriented.	**+**
Info Labels	Possibility to show/hide Info Labels in viewports.	**+**

Comparison Study	The comparison study's DATE is highlighted.	✚
Lossy compression	Displaying the compression type and ratio for lossy compression images in viewports.	✚
Report	Write a report for a study.	✚
Image print	Print the image from a Viewer.	✚
DICOM print	With integrated printing component for MedDream PACS, PacsOne, Orthanc, dcm4chee v2, and dcm4chee v5 PACS.	✚
Study forward	Forward studies to the other DICOM devices.	✚
Export	Export multiple studies and save them in different formats: DICOM, jpg/mp4, tiff/mp4, png/mp4, and BMP/mp4.	✚
Burn	Export the study to burn it to CD/DVD/Dual-Layer DVD/Custom Size.	✚
Anonymize and share	Possibility to anonymize and share studies (via <u>DICOM Library</u>).	✚
Specific features		
Live Share support	Diagnostic quality real-time-sharing functionality (conference mode).	✚
Presenter tools	For marking an area of interest in the viewport during presentation. Presenter tools: Fading line; Fading arrow; Draw; Clear All; Laser Pointer and selecting from 5 colors.	✚
Multi-frame support	The US and XA multi-frames are shown in cine mode. CT/MR/MG/OPT/NM studies multi-frames shown as instance series. CT/MR multi-frames are with full functionality of MPR/MIP/3D.	✚
Video support	MPEG-2 and MPEG-4 video support.	✚
ECG support	Electrocardiography study support.	✚
PDF support	Support for PDF files.	✚
SR support	Support for SR documents.	✚
Non-DICOM support	BMP, JPG, TIFF, MPEG, PDF, and TXT files support.	✚
PR support	Support for Presentation State annotations.	✚
Key Objects (KO) support	Possibility to mark instances as Key Objects and save them with user information and description. Available KO instances can be opened for review.	✚
CAD marks	Displaying CAD SR findings (iCAD and R2) on mammography images. Possibility to show/hide.	✚
DICOM Overlay	Showing DICOM Overlay in GUI. Possibility to show/hide.	✚
Montage	Possibility to create a Montage of different instances and save it as secondary capture in a new series.	✚
Fusion	Fusion can be applied on a series of PET, CT, MR, NM, or other configured modalities.	✚
PET-CT Fusion	Possibility to combine the series of PET and CT types, thus linking the sites of radioactive drug concentrations with the anatomical patient structure.	✚
Advanced PET Fusion	Opening multiple PET reconstructions.	✚
Spin	Rotating the Sagittal or Coronal reconstructions around the X axis. Possibility to Auto Spin Forward/Backward.	✚
Construct 4D series	4D Tool to create virtual series from the study series, where the data are sorted in space and then in time.	✚
Digital Subtraction	Apply Digital Subtraction Angiography mask for XA images.	✚

Color channels	Highlight a color component or a combination of them in the image by showing selected colors in white shades and other colors in black.	**+**
OCT/OPT Reference lines	Overlaying reference lines allow for indicating the location of an image slice on another image in OCT/OPT modality studies.	**+**
ECG features		
Measurement (mV, s)	Area calculation indicating beats per minute, time, and millivolt (mV, s, bpm).	**+**
QT points (RR, QT, QTc)	QT interval - the RR interval is calculated as well as QT and the QTc.	**+**
HR	Measure heart rate (HR) and compare its interval variance over the ECG.	**+**
QRS axis	Measure the QRS electrical heart axis.	**+**
Studies comparison	Comparison of two or more ECGs.	**+**
Ultrasound feature		
VTI (Velocity Time Integral)	Used to measure the distance from which the blood was ejected over a date interval of time.	**+**
MPR features		
Orthogonal MPR	2D multi-planar reconstruction with Axial, Coronal, and Sagittal projections.	**+**
Axial MPR	Axial multi-planar reconstruction.	**+**
Coronal MPR	Coronal multi-planar reconstruction.	**+**
Sagittal MPR	Sagittal multi-planar reconstruction.	**+**
Features of 2D	Window leveling, pan, zoom, measurements, scroll, crosshair, etc. Except for the image flip/rotate function.	**+**
Cine	Users can cine through a batch of MIP/MPR images for a quick review of anatomy within a user-defined range.	**+**
Oblique MIST feature with MPR/MIP/3D rendering		
Oblique MIST	Multiplanar reconstruction (MPR) view in oblique planes.	**+**
MIP	Maximum Intensity Projection mode for rendering the images.	**+**
MinIP	Minimum Intensity Projection mode for rendering the images.	**+**
AVG	Average mode for rendering the images.	**+**
Regular features	Window leveling, pan, zoom, flip/rotate; scroll, crosshair.	**+**
Measurements	Line, Angle, Ellipse, Flexpoly, Pencil.	**+**
Viewport features	Copy to clipboard, Secondary capture, selectable layout, hide axis, recenter, reset.	**+**
3D rendering	Rendering of 3D volume with rotation, pan, zoom, and window leveling functions and applying the transfer function presets.	**+**
Curved MPR	Curved Planar Reconstruction (CPR) feature.	**+**
MPR/MIP/3D comparison	Several MPR/MIP/3D views can be compared at the same time.	**+**
MIST MIP features		

MIST Axial MIP	Axial multi-planar reconstruction with MIP feature.	**+**
MIST Coronal MIP	Coronal multi-planar reconstruction with MIP feature.	**+**
MIST Sagittal MIP	Sagittal multi-planar reconstruction with MIP feature.	**+**
Customization features		
Theme	Possibility to change the default color (red) to the blue color that is clearly visible on a black and white monitor.	**+**
Thumbnail view	One thumbnail per CT/MR/PET series is shown. If study contains annotations additional icons of KO, PR or Segments are shown next to the instance/series thumbnail. Possibility to configure all thumbnails for the series to be shown.	**+**
Silent Preload	Optional CT/MR/PET series instances preloading on dragging thumbnail to the viewport.	**+**
Rebranding	OEM rebranding allows customizing: the system name, system logotype, company logotype, login logotype, and color theme. For Full rebranding please contact the sales department.	**+**
Multi-language support	Default languages: English, Lithuanian, Russian. Possibility to support more languages by request.	**+**
Dialog windows	Possibility to resize and drag dialog windows.	**+**
Supported modalities		
CR	Computed Radiography modality for diagnostic use.	**+**
CT	Computer Tomography modality for diagnostic use.	**+**
DX	Digital Radiography modality for diagnostic use.	**+**
ECG	Electrocardiography modality for diagnostic use.	**+**
EPS	Cardiac Electrophysiology modality for diagnostic use.	**+**
ES	Endoscopy modality for diagnostic use.	**+**
IO	Intra-Oral Radiography modality for diagnostic use.	**+**
IVUS	Intravascular Ultrasound modality for diagnostic use.	**+**
MG	Mammography modality for diagnostic use.	**+**
MR	Magnetic Resonance modality for diagnostic use	**+**
NM	Nuclear Medicine modality for diagnostic use.	**+**
OCT	Optical Coherence Tomography (non-Ophthalmic) modality for diagnostic use.	**+**
OPT	Ophthalmic Tomography modality for diagnostic use.	**+**
OP	Ophthalmic Photography modality for diagnostic use.	**+**
OT	Other modalities for diagnostic use.	**+**
PT	Positron Emission Tomography (PET) modality for diagnostic use.	**+**
PX	Panoramic X-Ray modality for diagnostic use.	**+**

RF	Radio Fluoroscopy modality for diagnostic use.	**+**
RG	Radiographic imaging modality for diagnostic use.	**+**
SC	Secondary Capture modality for diagnostic use.	**+**
SR	Support for SR documents.	**+**
US	Ultrasound modality for diagnostic use.	**+**
XA	X-Ray Angiography modality for diagnostic use.	**+**
XC	External-camera Photography modality for diagnostic use.	**+**
Integration into medical information systems		
HIS	Flexible and open integration interface into Hospital information systems.	**+**
RIS	Flexible and open integration interface into Radiology information systems.	**+**
PACS	Flexible and open integration interface into Picture archiving and communication systems.	**+**
VNA	Flexible and open integration interface into Vendor Neutral Archives.	**+**
EHR	Flexible and open integration interface into Electronic health records.	**+**
EMR	Flexible and open integration interface into Electronic medical records.	**+**
PHR	Flexible and open integration interface into Personal health records.	**+**
Patient Portal	Flexible and open integration interface into Patient Portals.	**+**
eHealth	Flexible and open integration interface into eHealth, national or regional eHealth systems.	**+**
Teleradiology	Flexible and open integration interface into Teleradiology or Telemedicine systems.	**+**
Cloud	Flexible and open integration interface into Cloud healthcare systems.	**+**
Any medical application	Flexible and open integration interface into any other medical applications.	**+**
Integration types		
Integration via URL	The viewer can be integrated into any application by using URL links. It could be added into iFrame or opened in a new browser tab or window.	**+**
Integration via Communication API	The viewer can be integrated into any application by using Communication API. This method allows controlling MedDream functionalities (open study, add study, close study, set layout, open the instance with defined transformations, set callbacks, etc.).	**+**
Integration via Viewport API	The viewer can be integrated into any application by adding it as a Viewport (as web a component in React/Angular application) for image visualization. User interface and user experience can be developed by the customer.	**+**
Integration via URL		
Study UID	By Study UID: URL?study={studyUID}. Online demo.	**+**
Patient ID	By Patient ID: URL?patient={patientID}. Online demo.	**+**
Accession Number	By Accession Number: URL?acc={AccessionNumber}. Online demo.	**+**

Patient ID + Accession Number	By Patient ID + Accession Number: URL?patient={PatientID}&acc={AccessionNumber}. <u>Online demo.</u>	**+**
File	By path to File: URL?file=PATH_TO_YOUR_FILE	**+**
Token-based	Token-based secure integration.	**+**
PACS server support		
Multi PACS support	Supporting Multi PACS by plugins.	**+**
MedDream PACS	Server to store, archive, and manage medical images. <u>Read more.</u>	**+**
PacsOne PACS server	<u>Read more.</u>	**+**
dcm4chee v2 and dcm4chee v5 PACS	<u>Read more.</u>	**+**
Orthanc PACS	<u>Read more.</u>	**+**
DICOM Query/Retrieve	The service is used to query a DICOM archive about its content, and to eventually retrieve some portions of that content to another DICOM node.	**+**
FileSystem	A plugin that uses simple directories instead of a full-fledged PACS.	**+**
ClearCanvas	<u>Read more.</u>	**+**
Conquest DICOM software	<u>Read more.</u>	**+**
Google Cloud Healthcare	MedDream could be integrated with <u>Cloud Healthcare API</u> into Google Cloud Healthcare.	**+**
PACS supporting WADO	WEB DICOM (WADO) support: possibility to connect with any PACS that support WADO integration.	**+**
Any PACS or other DICOM system	The viewer can be integrated into any PACS system by plugins.	**+**
Virtualization environments support		
VMWare	VMWare virtualization. <u>Read more.</u>	**+**
Docker	Docker container. <u>Read more.</u>	**+**
Kubernetes	Kubernetes deployment support. <u>Read more.</u>	**+**
Hyper-V	Hyper-V virtualization. <u>Read more.</u>	**+**
Cloud deployment support		
Amazon AWS	Amazon Cloud deployment. <u>Read more about Amazon Web Services.</u>	**+**
Google	Google Cloud deployment. <u>Read more about Google Cloud Healthcare.</u>	**+**
Azure	Microsoft Azure Cloud deployment. <u>Read more about Microsoft Azure Cloud.</u>	**+**
Alibaba	Alibaba Cloud deployment. <u>Read more about Alibaba Cloud.</u>	**+**
DB Engines support		
MySQL	MySQL database support. <u>Read more.</u>	**+**
PostgreSQL	PostgreSQL database support. <u>Read more.</u>	**+**

MSSQL	MSSQL database support. _Read more about Microsoft SQL Server._	**+**
MariaDB	MariaDB database support. _Read more._	**+**
Other	The viewer can be integrated into any DB Engine by request.	**+**
Operating Systems on server-side support		
Windows Server	Windows Server 2019, 2022 and newer.	**+**
Windows	Windows 10, Windows 11 (64 bit only) and newer.	**+**
Linux	Debian 12, Ubuntu 22.04 LTS, CentOS 7.9-2009, Fedora 39.	**+**
Operating Systems on client-side support		
Windows	Windows 10, Windows 11.	**+**
Apple macOS X	iOS 17, iPadOS 17, macOS Sonoma, macOS Ventura, and macOS Monterey.	**+**
Web browsers support		
Microsoft Edge	123 or later.	**+**
Mozilla Firefox	124 or later.	**+**
Google Chrome	123 or later.	**+**
Safari	17 or later.	**+**
Mobile devices (tablets and smartphones) support		
IOS	Safari 17 or later, Chrome 123 or later.	**+**
Android	Chrome 123 or later, Firefox 124 or later.	**+**
Regulatory		
IHE XDS-I.b	Cross-enterprise Document Sharing for Imaging (XDS-I.b) profile as DOCUMENT CONSUMER (ITI-18, ITI-43, RAD-16, RAD-55, RAD-69 transactions).	**+**
USA FDA	K222320, 510 (k) cleared for diagnostic use including mammographic images as a class II medical device.	**+**
Europe CE	Certified as a CE 0197 Class IIb device according to MDR.	**+**
United Kingdom MHRA	Registered as radiology picture archiving and communication system workstation.	**+**
Switzerland Registration	Registered as IIB class radiology picture archiving and communication system workstation.	**+**
Thailand FDA	Received approval for distribution.	**+**
Singapore Registration	Registered as a Class B medical device.	**+**
Malaysia Registration	Registered as an IIB class medical device.	**+**
Russia Registration	Registered as a Class 2b medical device.	**+**