medDream VET
WEB DICOM viewer
HTML 5 ZERO-FOOTPRINT DICOM VIEWER

Softneta
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THE FUTURE
Intended Use

MedDream VET is a web based DICOM Viewer for PACS server especially designed for veterinarians, which conveniently manages imaging, diagnosing, archiving, transmitting and connects all the medical data into one unified and fast performing network.

This is a powerful software for searching, viewing and processing DICOM images, signals and video files on various devices: computers, smart phones, tablets and so forth. MedDream VET Viewer provides an interactive diagnostic interface with all required image processing features such as measurements, cine mode, study comparisons, etc.

Highlights

MedDream VET DICOM Viewer can be used for review purposes or even primary diagnostics. The Viewer is designed to make the images available across the hospital, even present images to the customers of the institution. MedDream VET has an integrated telemedicine platform for veterinarians (www.dicomlibrary.com).

The system is fully UNICODE compliant and provides the user interface with full support in English, Russian and Lithuanian languages with a possibility to add more user interface languages easily.
MedDream VET DICOM Viewer has a rich radiology tool set, which includes regular tools as zoom, pan, windowing, magnifier and advanced tools:

- Mark area of interest with a polyline and measure its area;
- Measure Vertebral Heart Score/Scale to assess cardiac enlargement;
- Norberg angle measurement to evaluate canine hip dysplasia;
- To calibrate Image-Magnification caused by the distance of the object to the detector;
- Measurement of space between femur and tibia for planning TTA (tibial tuberosity advancement) treatment for cranial cruciate ligament-deficient stifle joints in dogs;
- Measurement of tibia plateau angle for planning of TPLO (tibia plateau leveling osteotomy) in dogs with cranial cruciate ligament rupture;
- Draw and measure the length of a line;
- Show all the angles between intersecting lines;
- Draw and measure an angle;
- Draw and measure the length of a polyline;
- Measure Hounsfield units at a specific point of a CT study;
- Display of reference lines (Scout Lines).

MedDream supports the following DICOM files and formats:

- Implicit Little Endian, Explicit Little Endian, JPEG, JPEG-LS, JPEG 2000, RLE, MPEG-2 and MPEG-4 Transfer Syntaxes:
  - C-FIND, C-GET and C-MOVE functions;
  - DICOM ECG file support;
  - DICOM MPEG-2 and MPEG-4 Video playback support;
  - DICOM Study forwarding to pre-defined DICOM partners;
  - Saving studies locally in DICOM, JPEG, TIFF and videos in MP4;
  - Exporting studies to DICOM portable format.
Cardiology (ECG) module

MedDream VET provides not only standard image manipulation tools, but also a way to read, manipulate and interpret electrocardiography (ECG) data.

ECG manipulation tools are all presented in an innovative zoom model which allows to zoom, measure and quantify the ECG data:

- Area calculation indicating beats per minute, time, millivolt (mV, s, bpm);
- QT interval - the RR interval is calculated as well as QT and the QTc (based on Bazett’s formula);
- Measure heart rate (HR) and compare its interval variance over the ECG;
- Measure the QRS electrical heart axis;
- Review ultrasound (US) machine generated report;
- Comparison of 2 or more ECGs by normalizing and then overlaying them on one another;
- Up to 9 ECG’s may be opened at once.

MedDream VET can be used to measure a volume on a 2D image by using the Simpson's approximation rule, the 2D area that way is spun over a selected axis to form a 3D shape and a volume of such shape is measured. This technique allows to do volume measurements of a heart in a 2D Computed Radiography image.

MedDream VET supports measurement of Velocity Time Integral on ultrasound (US) studies that can quantify the trace of the Doppler flow profile.
**REPORT MODULE**

MedDream VET offers WEB based Reporting module using which vets can create DICOM *Structured Reports* online from anywhere in the world.

Users may annotate images or studies with individual texts, keywords or attached documents. Complete annotation editing or printing of the study are available by clicking a button on the study header.

**Video module**

The module is used for search, review and analyse medical videos from ophthalmology devices, microscopes, echoscopes and other video sources. Video module is integrated into MedDream VET DICOM Viewer that allows to use PACS as medical video archive.
Ophthalmology module

For ophthalmology or other visual spectrum images MedDream VET proposes a tool to digitally apply monochromatic filters for the primary colors as well as secondary to enhance the visual contrast of anatomical details.

Telemedicine for veterinary

DICOM Library telemedicine platform provides solution for store, archive, exchange and view of medical images. Telemedicine service makes possible to view images from central or local repository, order diagnostic services from other institutions, store, write, and print diagnostic reports.
**ADVANTAGES:**

- **Prompt** study loading; don’t need a powerful server;
- **Flexible** Licensing model;
- **Support** all types of studies;
- **Flexibility:**
  - Multi PACS support;
  - Vendor neutral viewer;
  - Custom development;
  - Try before Buy.

**BENEFITS:**

- Time **savings**;
- Mistakes **elimination**;
- **Exact** study will be performed on exact patient;
- **High quality** images;
- **Faster** and **better** diagnosis;
- **Higher** work efficiency;
- **Less** service staff.

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**Access Control**

For image distribution within the veterinary clinic user name and password protection are typically enough. To have a finer access control MedDream VET typically relies on a higher authority system (e.g. Veterinary Information System) which grants access to specific cases.

MedDream VET supports Lightweight Directory Access Protocol (LDAP), HTTPS Security integration as well as Single Sign-on (SSO) through security tokens to allow fast and flexible usage of the system for the veterinarians. Proprietary ways of integration to user management and access control systems are available on project specific basis.
SOFTNETA is an innovative IT company, that provides software based, specialized Medical Imaging and communication solutions to improve the quality of healthcare.

10 years experience in: DICOM viewing, telemedicine, digitalization, video solutions for healthcare and PACS servers as well as integration with HIS / RIS systems.

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The following describes a typical process how a MedDream gets installed in your institution.

Depending on each specific installation preliminary Hardware sizing information might slightly vary based on the modalities being used in the clinic. Minimum Hardware requirements for the MedDream VET Application Server:

<table>
<thead>
<tr>
<th>Systems of up to</th>
<th>10 concurrent users</th>
<th>50 concurrent users</th>
<th>100 concurrent users</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU/vCPU</td>
<td>2 Cores</td>
<td>4 Cores</td>
<td>8 Cores</td>
</tr>
<tr>
<td>CPU arithmetic performance</td>
<td>30 GOPS* per core</td>
<td>30 GOPS* per core</td>
<td>30 GOPS* per core</td>
</tr>
<tr>
<td>RAM</td>
<td>4GB</td>
<td>8GB</td>
<td>16GB</td>
</tr>
<tr>
<td>Storage size</td>
<td>Minimum 30GB or 240GB if used with caching</td>
<td>Minimum 150GB or 1,3TB if used with caching</td>
<td>Minimum 300GB or 3TB if used with caching</td>
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<tr>
<td>Storage performance</td>
<td>RAID providing minimum 280 IOPS**</td>
<td>Minimum 280 IOPS**</td>
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*Giga operations per second.  
**Input / Output operations per second.
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