current technical features **SeDI – Semantic DICOM**

DICOM PACS (Server)
Provides a central storage and interface for medical images according to the DICOM standard.

- Enables efficient storage, management, and exchange of medical images between different medical facilities and systems.
- Allows connection and integration of previously isolated data from obsolete/discontinued data management systems
- Facilitates workflow maintenance and offers options for optimization.

Integration of clinical data
Integrates clinical data from various data management systems like PACS, HIS/KIS.

- Provides a comprehensive overview of patient history and enables seamless collaboration between different departments and facilities through access to consolidated and up-to-date clinical data.

Calculation of clinical parameters
Enables the calculation of various clinical parameters such as volume, dose-volume histograms (DVH) and conformity indices according to medical standards.

- Supports accurate assessment of patient findings and treatment planning by generating and analyzing key clinical parameters.
- It is also possible to collect statistical data for study purposes or as part of quality assurance

Database as a knowledge graph
Organizes and links clinical data in the form of a semantic network.

- Supports advanced data analysis and visualization as well as the discovery of patterns and correlations in the data through semantic links, leading to more informed insights and decisions.

Webviewer (Client)
Provides a user-friendly web-based viewer for accessing medical images and data.

- Enables fast and secure access to medical images and data from any device with an internet connection, improving flexibility and workflow.

URL encoding
Encodes and decodes URLs for the secure exchange of data over the Internet.

- Ensures the security and integrity of transmitted data by encrypting URLs, which reduces the risk of data manipulation and unauthorized access.

In development:
Data Export to File

Hardware requirements

- Minimum requirements: 4 CPUs and 16 GB RAM.
- Recommended requirements: 12 CPUs and 32 GB RAM.
- Memory: 120 GByte, including 25 GByte for database.
- Disk: data stock + 20% + memory for additional clinical data

DICOM support and workflows

- Supported SOP classes: CT, RT-STRUCT, RT-DOSE, PET, MR, RT-Plan.
- Supported DICOM workflows:
  Conformance statement for visual representation of DICOM conformance.

Tests and database

- Recorded studies: 5000
- Total memory requirement: 120 GByte, including 25 GByte for database

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SEARCH MASK VIEWER

Patient name

Enables the unique identification of patients.

- Improves the efficiency of patient management and enables precise allocation of information to individual patients.

Patient ID

Provides a unique identifier for each patient.

- Facilitates the quick and accurate identification of patients for medical purposes and the management of study protocols.

Date of birth

Allows you to check the age / calculate the age of patients.

- Helps to determine age groups for the analysis of study data and enables personalized treatment based on the patient's age.

Gender

Provides information about the biological sex of patients.

- Enables a differentiated analysis and treatment based on gender-specific differences in medicine.

Description of the study

Provides a summary of the parameters of the study.

- Enables a quick overview of the study to obtain relevant information for the treatment of patients and to support research activities.

Description of the series

Gives a description of the medical series.

- Enables detailed viewing of medical imaging or other diagnostic data for patient treatment and monitoring.

Date of the series

Shows the date on which the medical series was created.

- Helps with the time allocation of medical images or other diagnostic data during patient treatment and monitoring.

Modality

Indicates what type of medical imaging or diagnostic technology was used.

- Provides a quick overview of the imaging technology used to date for the diagnosis and monitoring of diseases according to the patient's needs.

WEB VIEWER CONTROLS

Panning the image, scrolling through the image stack, zooming the image

- Allows users to view and analyze different areas of the image in more detail without losing context.
- Provides users with the ability to examine and analyze fine structures or pathologies in more detail.
- Supports navigation through extensive image series and facilitates access to specific images for diagnosis and analysis.

ROI - REGION OF INTEREST

In medical imaging, ROI stands for "Region of Interest".

These areas could be tumors, injuries, or other abnormalities in the body, for example. By highlighting or taking a closer look at these areas, the doctor can make a better diagnosis and better plan treatment. The ROI function therefore makes it possible to highlight or analyze important areas on medical images to perform a more accurate medical assessment.

Line (outline), fill, highlight, center

Allows you to define regions of interest (ROI) on the image, either by drawing lines, filling in areas or highlighting them with different colors.

- Supports the marking and analysis of specific areas or structures in the image that are relevant for diagnosis or treatment planning.

DOSEWASH DISPLAY with heat map of the dose

Provides a visual representation of the dose distribution on the image, possibly in the form of a heat map.

- Provides users with a clear visualization of the dose distribution in the treated area, which is helpful in evaluating treatment planning and monitoring dose exposure.