

MiniPACS implementation in Telemedicine

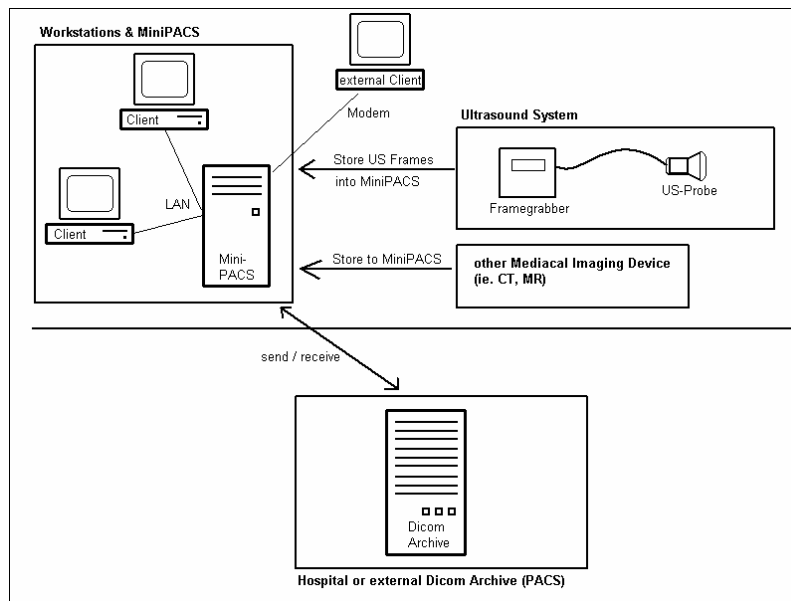
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Introduction

MedCom MiniPACS offers access, management, archiving and easy transfer of medical images. Importing U/S, CT, MR and many other DICOM Images is possible. Especially important is a variance offering miniPACS functionality for existing U/S devices.

The Principle



The interface of the miniPACS system to an ultrasonographer is a Frame grabber. The frames generated from the U/S-System can be digitized in real-time and stored in the database as single images or as video-sequences by the front-end of the MiniPACS. The interface digitizes and shows in real-time the Images generated by the Ultrasound-System. Sequences can be recorded or a single frame can be grabbed and stored to the MiniPACS. It stores all data in a structure of patients and their studies. The U/S-Frames, CT-Images or other Application specific data will be stored there and can be loaded from any Client connected to the MiniPACS.

DICOM features

The Data on the MiniPACS is stored internally in a MedCom specific format. However all imported images, also frame-grabbed U/S sequences, can be converted into DICOM compatible format, which can be send to a StoreSCP, a DICOM Archive or exported as DICOM files to Disk.

The MiniPACS has full-scale DICOM networking and communication interface, e.g. via a DICOM StoreSCP and can receive any DICOM Data from any Medical Imaging Device which supports the DICOM standard or can send/receive DICOM-Data to/from a DICOM Archive. Thus, the data-base Data will be available to all Clients connected to the MiniPACS.

The MiniPACS can also access external PACS-Systems. An interface allows to search by Patient specific Information (i.e. Name or Date of Birth) or by study specific information (i.e. Study-Date or Description). Any Data from a PACS can be stored into the MiniPACS and loaded into your working Application. In addition to U/S, any other type of data can be stored and managed with the same database. This system provides:

- Central data management
- Peripheral data entry and usage
- Archiving of your image data on external storage media
- Access on your data from every DICOM-compatible workstation
- Access over different possible transfer media (LAN, Modem, ISDN, etc.)
- Import of DICOM images
- Import/Export function for image data for computers without connectivity to the server
- Restriction of data access through user accounts and access rights

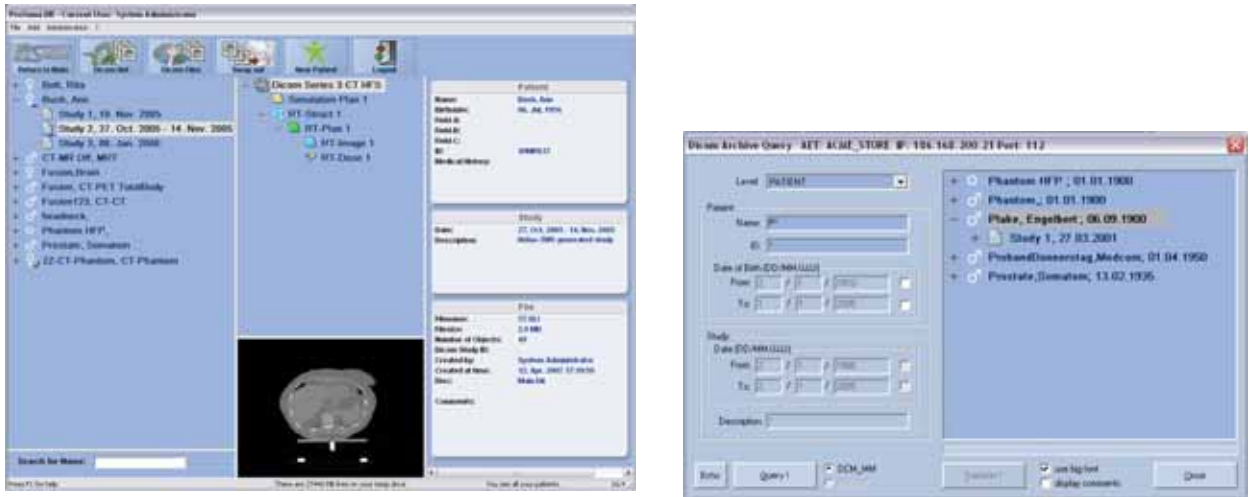


Figure 1 : Database User Interface and PACS Query

Last, miniPACS can be accessed not only within the local LAN, but also from remote via telephone, internet or any other network. Full-scale telemedicine functions, including security and authentication features, are supported making the miniPACS to an universal tool for the physician

