





## **TeleDICOM system functionality:**

- synchronous and interactive work over medical documents using shared pointer, simple shapes and specialized tools,
- conformance to H.323 standard,
- integrated voice and chat tools,
- multiparty support,
- operation in wireless networks (tested in EDGE and UMTS).

- GENERAL CONCEPT of TeleDICOM SYSTEM



### SYSTEM OVERVIEW

TeleDICOM is an environment for collaborative and interactive work on medical documents for consultation purposes. The idea of the system is to provide an easy but powerful way to exchange knowledge between doctors from any place where computer network is available.

The system offers integrated conferencing tools (voice, text and pointer exchange) supported by specialized instruments such as distance and angle measurement, Hounsfield window adjustment and support for multiframe medical images. All this gives an impression of real medical consultation but is possible without either disturbing patients or forcing doctors to move from their workplace.

The system supports DICOM standard which offers diagnostic quality of patients' examinations as well as the full view of textual description recorded directly by medical devices. Whenever there is a need to work with common raster image and movie formats (e.g. JPEG, GIF, AVI, etc.) TeleDICOM provides the calibration tool in order to measure temporal and spatial distances. This makes the application ready to support not only data produced by DICOM-compliant diagnostic devices but also wide diversity of digital image sources such as scanners, digital cameras, etc.

The application may also play an important educational role allowing medicine students to observe a real medical consultations with no permission to interfere with the session.

### SYSTEM AUTHORS

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IMPLEMENTATION

# The user application functionality:

- angle and distance measurement,
- adjustment of Hounsfield window,
- intuitive zoom and pan tools,
- single- and multiframe DICOM images,
- support for many popular raster image formats (e.g. JPEG, GIF, AVI).

SCREENSHOT OF TELEDICOM SYSTEM USER INTERFACE

### EXAMPLE of ECHOCARDIOLOGY EXAMINATION

The system was developed in cooperation with John Paul 2nd hospital in Krakow and has extended functionality regarding ultrasonography (support for DICOM US regions e.g. Doppler) and in particular echocardiography. TeleDICOM client offers measurements specialized for echocardiography such as: area, volume, pressure half-time (PHT), flow speed and acceleration and many others.



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