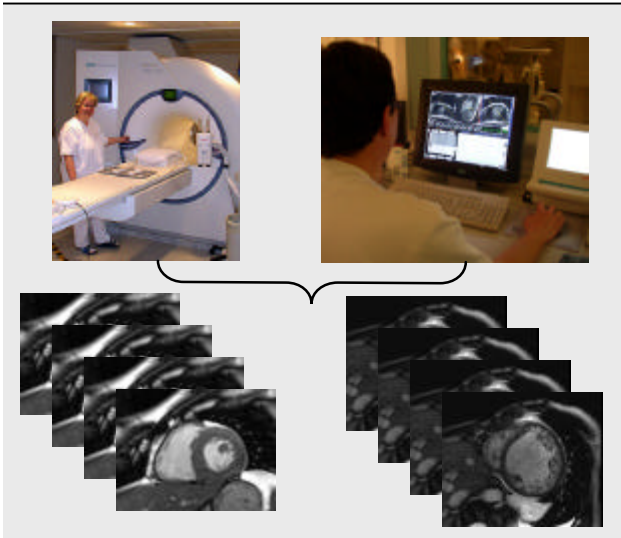


background: Cardiac magnetic resonance imaging (MRI) is a new and increasingly used method for the cardiologist. We integrated images, films and reports in our cardiology information system for better comparison with echocardiographic and angiographic results.



Methods: The software includes the following features:
Structured report generation for left and right ventricle, atria, cardiac valves, pre- and postcontrast (late enhancement) including reports for stress MRI.

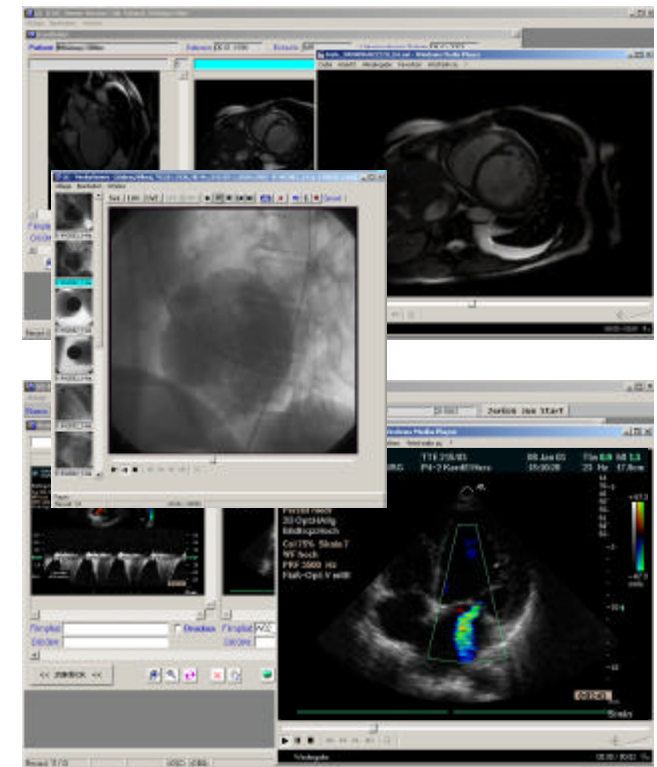
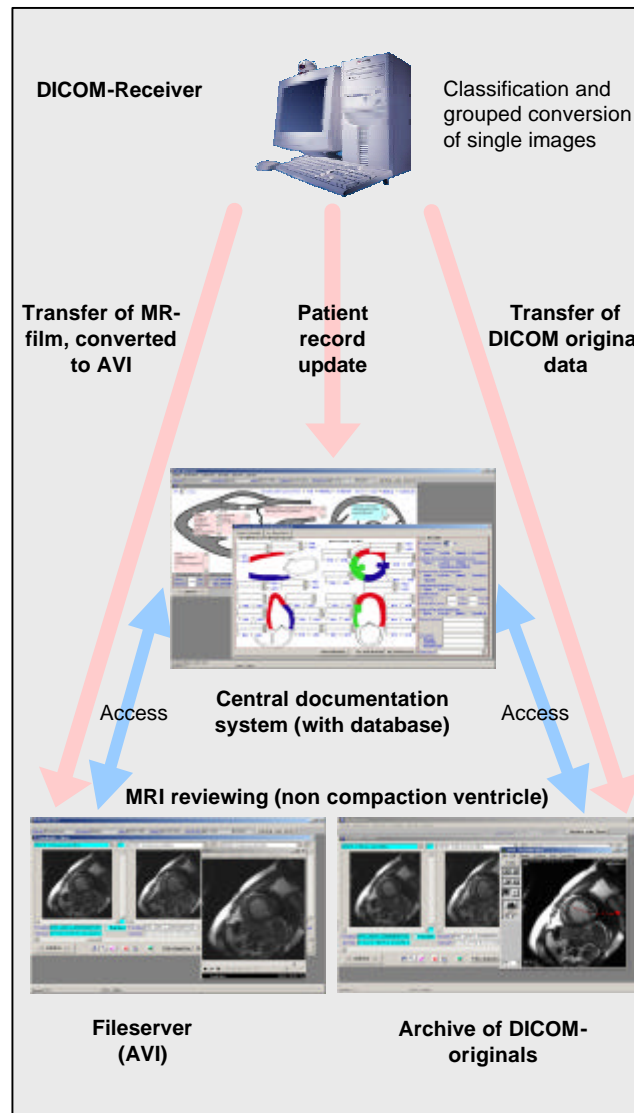
Structured report generation for aortic and pulmonary vessels including suprasternal, intracranial, abdominal and peripheral vessels.

Receiving of MRI images in DICOM (Digital Imaging and Communications in Medicine) format.

Converting and structuring the DICOM images to fingerprint pictures for each series with appending the respecting DICOM series and a corresponding film in the Moving Picture Experts Group (MPEG) format.

Integrating a viewer for DICOM and MPEG films in the report software.

Adjusting the framerate of the MPEG films to the heart rate for real time viewing.



Results: In one year all 286 cardiac MRI studies could be integrated in the software system. For each study a mean of 109 single images in 46 series were taken. The DICOM images required 145 megabyte per study and the fingerprint and MPEG films together 4 megabyte (compression of 48:1). The films were used on all 40 workstations of the department for reviewing and the postprocessing modalities of the DICOM viewer for treatment planning (e.g. aortic stents).

Conclusion: The integration of cardiac MRI reports and films with feasibility of direct comparison with echo and angio films makes it easy to gain access and knowledge of this new imaging modality for all colleagues in the department.