

Minutes of DICOM WG24 meeting (#2)
Wednesday, 28th September 2005, 2 p.m. - 4 p.m.
at the Hilton Budapest WestEnd Hotel
Budapest, Hungary

Attendees:

Heinz Lemke, TU Berlin, Germany, CURAC representative
Kris Verstreken, Agfa Belgium
Renate Höcker, Siemens Erlangen, Germany
Rainer Thieme, Siemens Forchheim, Germany
Jörg Raczkowski, University of Karlsruhe, Germany
Oliver Burgert, Innovation Center Computer Assisted Surgery, Leipzig, Germany
Robin Winter, DePuy, Germany
Francisco Sureda, GE, Member WG2, France
Jürgen Thiem, Sony Healthcare, Germany
Jörg Sabczynski, Philips, Germany
Armin Löpfe, Zimmer GmbH, Switzerland
Peter Mildenerger, German Röntgen Society, Germany
William Mortimer, Merge Healthcare, USA

Agenda

1. Scope of WG24
2. Roadmap
3. Short Term Goals
4. Current Work Items
5. Relationship to other Standards and Standard Bodies
6. Election of WG24 Chair and Co-Chair
7. Miscellaneous

The following is the result based on the Preliminary Strategic Summary of WG24 (August 2, 2005) suitably amended in the discussions of the seven agenda items given above.

1. Scope of WG24

“To develop DICOM objects and services related to image guided surgery (IGS)”.

2. Roadmap

1. Identify and build up a user community of IGS disciplines in WG24. Initially five surgical disciplines (neuro, ENT, cardiac, orthopaedics, thoracoabdominal) are selected. Anaesthesia is included as long as surgery is affected (I/O). Interventional radiology should be kept in mind for future consideration.
2. Encourage experts from vendor and academic institutions to join WG24. Vendors of endoscopic and microscopic devices as well as implants (templates) should be included in addition to the classic vendors of medical imaging and PACS.
3. Compile a representative set of surgical workflows (with a suitable high level of granularity and appropriate workflow modeling standards and surgical ontologies) as a work reference for the scope of WG24. Initially, 3-5 workflows, characteristic for each discipline, should be recorded with sufficient level of detail. Workflow tools can be provided by the Innovation Center Computer Assisted Surgery, Leipzig, Germany.
4. Derive potential DICOM services from these surgical workflows.

5. Design an information/knowledge model based on electronic medical record (EMR) related work and identify IOD extensions to DICOM. Because of similarities to the IHE activities, a close relationship to IHE should be established.
6. Take account of the special image communication (1D - 5D) requirements for surgery and mechatronic devices. A close cooperation with WG 2 and 17 should be established.
7. Work in close cooperation with DICOM experts from radiology, cardiology, radiotherapy and related fields which are represented in WG1 - WG23.
8. Encourage close cooperation with working groups in the International Society for Computer Aided Surgery (ISCAS), Japan Institute of CARS (JICARS), German Society for Computer- and Robot-Assisted Surgery (CURAC), European Federation for Medical Informatics (EFMI), European Association for Endoscopic Surgery, American College of Surgery, International Society for Surgery, etc.
9. Disseminate knowledge gained following the roadmap through workshops, conferences and special seminars. Special presentations should be planned for CARS, SPIE, RSNA, DICOM-Meeting, and at a minimum at one surgical conference.
10. Connect to integration profiles specified for surgery by IHE activities.

3. Short Term Goals

1. Specify the scope of WG24 relating to peri-operative workflows.
2. Consolidate the relatively large number of interested individuals of WG24 into effective project groups.
3. Produce a White Paper which identifies the current problems with IGS, possible solutions and derive from this a more detailed roadmap for WG24. As a starting point for the White Paper, the survey paper authored by Heinz U. Lemke, Osman Ratib and Steve Horii entitled "Workflow in the Operating Room: Review of Arrowhead 2004 Seminar on Imaging and Informatics", (published in Proceedings of the SPIE Conference 2005 on PACS and Imaging Informatics, Vol. 5748) should be used.
4. The following project groups (PG) have been established (project group leaders in brackets):
 - PG1 WF/MI Neurosurgery (Jörg Raczowsky, NN)
 - PG2 WF/MI ENT Surgery (Jörg Raczowsky, NN)
 - PG3 WF/MI Orthopaedic Surgery (Armin Löpfe, Ulrich Stoeckle?)
 - PG4 WF/MI Cardiovascular Surgery (Kris Verstreken, NN)
 - PG5 WF/MI Thoraco-abdominal Surgery (NN, NN)
 - PG6 WF/MI Anaesthesia (Warren Sandberg, NN)
 - PG7 S-PACS Functions (Kris Verstreken, NN)
 - PG8 WFMS Tools (Oliver Burgert, NN)
 - PG9 IPD (Stefan Zachow?, NN)
 - PG10 Ultrasound in Surgery (Steve Horii, NN)
 - PG11 White Paper (Heinz Lemke, Osman Ratib, Steve Horii)
5. Each PG shall be included in the White Paper. There should be two PG leaders coming from the technical and medical disciplines respectively. They are responsible for providing the content of the White Paper.
6. PG 9 and PG 10 are planned to achieve some short and/or middle term results. For example, they could select some image acquisition, image processing and display functionalities, specific to IGS, and relate them to DICOM objects and services.
7. Establish a working relationship to professionals in anesthesia.
8. During the starting phase it is planned to have four WG24 meetings per year.
9. Next meetings of WG24 are scheduled for RSNA, SPIE, CARS and World Congress of Endoscopic Surgery.

4. Current Work Items

- Preparation of a strategic summary for WG24.
- Preparation of a White Paper for WG24.

5. Relationship to other Standards and Standard Bodies

1. Geometric models (stl, vtk, ...)
2. X-ray-dose
3. anaesthesia protocols / measurements
4. Electronic patient record (IEEE/ISO 11073 part 5&6)
5. DICOM WG2
6. DICOM WG17 (Standards for high definition displays)

6. Election of WG24 Chair and Co-Chair

Chair candidates: Heinz Lemke

Heinz Lemke has been elected unanimously as chair of DICOM WG24 (12:0:0)

WG24 decides to have two Co-Chairs: one medical (user) and one vendor Co-Chair

Vendor Co-Chair candidates should give a short summary about their intent to serve as a co-chair to fschweikert@cars-int.org.

The medical Co-Chair will be established after the medical project groups (1-6) are running.

7. Miscellaneous

Any comments referring to the Preliminary Strategic Summary of WG24 (August 2, 2005) on the headings Risks, Challenges and Opportunities should be mailed to the chair of WG24.

Heinz U. Lemke
31st October 2005