User Report

Delft: Integrating images across disciplines and departments

The Reinier de Graaf group (RdGG) of hospitals in the Netherlands provides services for roughly 250,000 citizens in the regions of Delft, Westland, Voorburg, Rijswijk, Southwestern Den Haag, Pijnacker and Nootdorp. Close to 3,000 staff members work at several locations, including 159 specialist physicians and 100 specialists in training. In order to optimize processes and workflows, the RdGG group chose the solution software JiveX several years ago to integrate DICOM and non-DICOM imaging data from all departments other than radiology. As it turns out, the decision-makers are still highly satisfied with the choice they made back then.

Frans Wickel, *IT architect*

Seven years ago, the hospital group became the first customer of Alphatron, then a new partner of VISUS for Benelux. “The reasons for RdGG to go for JiveX as a PACS-II solution were maximized flexibility and rapid response times across departments,” explains IT architect Frans Wickel, who signed off on the project. The functional JiveX administrators are Ed van Beem and Gisèle Tjong A Hung. The project started out with the use of JiveX for endoscopy, aimed at archiving and distributing films and “moved images” generated by stroboscopes in the field of otorhinolaryngology. Data from cystoscopy for urology followed next. “The archived data include, next to video, reports which originate in a Word file or a report editor and are archived, together with the images, in a pdf format or an encapsulated pdf format,” says Frans Wickel. “Print-to-PACS, in use by seven different departments, is a very convenient tool that helps integrate reports and notes, with a DICOM header, into the JiveX PACS.”

Cardiology coming in as game changer

The big change happened when cardiology came into play. Previously at RdGG, ECG results had been printed on paper; and an early digitization solution had reached the end of its life. “Our aim

© VISUS Technology Transfer, Germany. All rights reserved. Errors and omissions excepted. JiveX® is an internationally registered brand name. All other product names are trademarks or brand names of their respective owners. developed by VISUS www.visus.com

was to get rid of the outdated, error-prone ECG strips and introduce DICOM ECG, and to store all those waveforms in a solution such as JiveX," remembers Frans Wickel. "We decided to acquire 21 modern Mortara carts for ECG acquisition and to combine that approach with JiveX. This solution works exceptionally well now in daily routine with roughly 40,000 ECGs performed annually," according to the IT architect.

The migration of 240,000 legacy ECGs presented a major challenge, however. The format utilized in the existing Philips Tracemaster database was XML 1.03, which needed to be updated. VISUS developed an import tool to achieve the conversion to current formats, and the integration of the data into JiveX. Subsequently, matching of the patients was optimized by correlating and correcting ID numbers, names and birth dates. "After an overhaul of the legacy data, and quite some merging and matching, this patient information is now fully accessible," says a contented Frans Wickel. "This fits in well with a Dutch proverb that says 'the best, and the hardest, things always come at the end.'"

The medical photographer's archive is next

In the Netherlands, it is common to take photographs before, in between, and after surgical procedures, in dermatology, and for liability issues. At RdGG, there is a photographer to document conditions. "Our original plan was to store all those images in JiveX too," says the CIO. However, the photographer uses a large number of tags describing disease, body parts, type of treatment, and types of medical implants to ensure easy access via text queries. "So, in addition to matching patients when integrating those images into JiveX, all these tags had to be accommodated," recollects Frans Wickel. "As soon as migration and matching are finished, all these images and notes will be accessible in JiveX for anyone who has been attributed the right to inspect them, with dedicated search and browsing functions." RdGG has just signed off on the integration of pathology; this project is due to finalize in about six months, covering legacy and new images.

© VISUS Technology Transfer, Germany. All rights reserved. Errors and omissions excepted. JiveX® is an internationally registered brand name. All other product names are trademarks or brand names of their respective owners. developed by VISUS www.visus.com

A unified viewer as a key goal

JiveX PACS-II has met its goals, has been adopted successfully at RdGG, and has been integrated easily into the hospital information system from ChipSoft. “In order to optimize collaboration across disciplines, e.g. for tumor boards, we now require a single viewer to display all images,” summarizes Frans Wickel. This iewer is going to play a key role for the future of imaging at the hospital group.

About the Reinier de Graaf group and the JiveX implementation

The Reinier de Graaf group (RdGG) is a group of hospitals in the Netherlands which provides comprehensive medical services to pprox. 250,000 citizens in the regions of Delft, Westland, Voorburg, Rijswijk, Southwestern Den Haag, Pijnacker, and Nootdorp. Close to 3,000 staff work here, including 159 specialist physicians and 100 specialists in training. There are two in/outpatient and two outpatient locations; licensed beds total 881. The IT department, staffed with 38 employees, supports more than 4,100 users.

At RdGG, JiveX for PACS-II encompasses otorhinolaryngology, urology, pediatrics, dermatology, neurology, gynecology/ultrasound, OR/endoscopy, the medical photographer, ophthalmology, cardiology/ECG, the central post-coronary care unit/ECG, and vascular research. The total number of modalities covered has gone up to 145.

Frans Wickel
IT architect

Reinier de Graaf Gasthuis

Reinier de Graafweg 3 - 11
2625 AD Delft

phone: +015 260 30 60

info@reinierdegraaf.nl
www.reinierdegraaf.nl

© VISUS Technology Transfer, Germany. All rights reserved. Errors and omissions excepted. JiveX® is an internationally registered brand name. All other product names are trademarks or brand names of their respective owners. developed by VISUS www.visus.com