

Newsbytes, 11/14

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Software expands on 'what you see is what you get'

New software that allows pathologists to share and compare multiple images, including whole slide images, on a single display at the same time could take collaboration to a new level. At least that's the thinking of staff members in the Electronic Visualization Laboratory at the University of Illinois at Chicago.

In a typical multidisciplinary conference, physicians go up one by one to display and discuss their findings, explains Bruce Levy, MD, associate professor of clinical pathology and director of informatics at UIC. "Our vision here was, couldn't you learn a whole lot more if you could have all this information side by side, rather than one image at a time? At a GI conference, for example, the gastroenterologist could bring up a window showing a video of a colonoscopy he performed. I could show a slide of the polyp he snagged. The radiologist could put up a CT scan. And we can all talk about this together and compare all of these modalities side by side."

Born of this vision, via a National Science Foundation grant, was SAGE2 (Scalable Adaptive Graphics Environment). The middleware provides users with a common framework from which to display and share information in a variety of formats, including as JPEGs, movies, and documents. The software currently runs on Google Chrome and Firefox, says Victor Mateevitsi, a PhD candidate and research assistant in the Electronic Visualization Laboratory, but "by the time it gets launched, we predict that all the Web browsers will be able to run it." Taking the technology a step further, Dr. Levy and Mateevitsi created a digital pathology viewer application that adds whole slide images to the formats that SAGE2 can display.

The ability to use SAGE2 and the viewer to open whole slide image files on any computer will be of particular benefit in international consultation, Dr. Levy predicts. "Our department does consultation work with Uruguay," he explains. "Right now they send physical slides to us and a pathologist views them and renders a diagnosis. They are hoping to move to digital slides in the near future. When they do, using SAGE2 and the viewer, they will be able to scan their slides as a whole slide image and import them into SAGE2, where they'll be able to open the file. At the same time, not only will I be able to see it and render a diagnosis, but I will be able to literally talk them through it and teach them."

The number and resolution of images that can be viewed simultaneously on SAGE2 depend on the display being used. Dr. Levy demonstrated the software for CAP TODAY using a tile display that covers an entire wall of a conference room at UIC and has a resolution 16 times greater than standard high definition. Because the display is so large, the details of five images placed in a row, showing gunshot wounds at various ranges, were readily visible. "Typically you would show each one of these images separately" when teaching forensic pathology, says Dr. Levy. "Now the students can clearly see the differences between, say, a contact wound and a close-up wound."

If someone has a question, he can activate his own pointer on the screen [in the front of the room], using his laptop, and move it around the image. If he had his own image of a gunshot wound that he had questions about, he could put it up on the wall for everyone to see.”

Using the digital pathology viewer to show an image of a spleen on the conference room wall, Dr. Levy repositioned and resized the image at will. “I have the ability to zoom in at high resolution and look at these images in ways that I can’t look at them either with a microscope or with conventional whole slide imaging today,” he says. “Because the resolution is higher, and because it’s on a screen this large, I can see something in much higher detail than I could see it under a microscope.” SAGE2 and the UIC screen are both touch sensitive, Dr. Levy adds, so he can move and resize windows as he walks in front of the display. Dr. Levy notes, however, that while a wall-sized display allows pathologists to zoom in on large images without losing context, it’s not necessary.

Plans were in place at CAP TODAY press time for Dr. Levy to demonstrate SAGE2 and the digital pathology viewer at the 2nd International Congress of the International Academy of Digital Pathology, this month, where Dr. Levy will access the UIC installation of SAGE2 using a laptop and projector. Participants will be provided with a URL that enables them to follow the demonstration on their laptops, tablets, or smartphones.

Because each vendor of whole slide scanners has its own proprietary format for the images, the company must provide source information in order for SAGE2 to be able to open the files, Dr. Levy says. “We have only done this so far with one of them, but all the vendors we’ve spoken to have been very happy to be involved. They recognize that these images need to be shared at some level, not just for something like SAGE2 but to enable image analysis across platforms.”

Both SAGE2 and the digital pathology viewer, which will be bundled with SAGE2, are in beta testing. They are expected to be available in six to 12 months, according to Maxine Brown, director of UIC’s Electronic Visualization Laboratory. SAGE2 and the viewer are open source and require only standard computer equipment to operate, so any institution that wants to install SAGE2 should be able to do so, Dr. Levy says.

“I think it’s an exciting tool,” he adds, “with a lot of potential applications we haven’t even thought of yet. I believe it will have huge value for collaboration and teaching, not just in pathology but also in other areas of medicine.”

—Jan Bowers

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ONC unveils tool for sharing health information with patients

The Office of the National Coordinator for Health Information Technology, with support from other federal agencies and the private sector, has launched the Blue Button Toolkit to help consumers access their digital health information.

The toolkit includes recommended technical standards for sharing data with patients in a structured manner and marketing materials to help organizations communicate the value of online access to health records. It is targeted toward, among others, independent laboratories, hospitals, EHR vendors, immunization registries, doctors offices, and pharmacies.

The toolkit recommends such technical procedures for exchanging information with consumers as Direct protocols, application programming interfaces, secure attachments, and Web services. It also provides guidance on how to include the Blue Button symbol—a nationally recognized symbol indicating to consumers that they can obtain their health records electronically—in an organization’s product or on its website.

The ONC encourages participating entities to reach out to others in the health care marketplace to speed adoption of the toolkit. “For example, an individual provider with his or her own practice may wish to share this toolkit with their electronic health records vendor as part of a conversation about implementing or enabling features such as the ‘view online, download and transmit’ requirement in stage 2 meaningful use in a way that supports patient and family engagement with their health data,” the ONC stated on its website.

The toolkit is the evolution of the ONC's "Blue Button+ Implementation Guide," introduced last year. More than 500 companies in the private sector have pledged their support for Blue Button.

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Portal gives patients direct access to lab test results

Atlas Medical has released Atlas patient portal, a patient access platform from which laboratories can give a patient or patient representative access to the patient's completed test reports upon request.

The Web-based application "enhances market presence for labs by providing secure, branded results delivery in a streamlined, efficient, and compliant method that meets growing consumer demands and aggressive market and regulatory requirements," according to a press release from Atlas. The portal allows diagnostic service providers to present their custom brands, logos, images, and color selections on their portal landing pages.

The application can be seamlessly integrated with Atlas' HealthCentric enterprise master patient index or third-party EMPI services.

[**Atlas Medical**](#), 800-333-0070

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Xifin partners with SyTrue

Xifin has entered a three-year agreement with SyTrue, a developer of proprietary technologies to translate unstructured medical data into useable clinical information, with the goal of enhancing productivity and reimbursement for users of Xifin's health care information systems.

Under the multi-year deal, Xifin will use SyTrue's patent-pending technologies to gain detailed information about pathology diagnoses with the intent of helping Xifin's clients improve their billing practices and reimbursement levels. With SyTrue's terminology server, which is designed to map, translate, and manage clinical terminologies, Xifin's customers will be able to process more thorough claims and thereby increase revenue, Xifin reports.

SyTrue will also deploy its code conversion tool as an app on the Xifin iNet physician office portal to aid Xifin's client base of diagnostic service providers in capturing accurate diagnostic codes in an effort to simplify the transition from ICD-9 to ICD-10 coding.

[**Xifin**](#), 858-436-2995

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GenoSpace awarded grant for developing biorepositories

GenoSpace has received phase one of a fast-track Small Business Innovation Research grant from the National Institutes of Health to enable enhanced data access and cohort construction for biorepositories.

The grant will allow the GenoSpace for Research population analytics platform to support advanced data management and analysis and study design for biomedical research samples stored in the National Institute on Drug Abuse Center for Genetic Studies biobank. The resulting GenoSpace for Biobanks platform would provide a framework for expanded access to resources in other biorepositories.

GenoSpace provides a unified software platform that addresses the data access, analysis, interpretation, and reporting needs of pathologists, research scientists, oncologists, clinical trial specialists, medical directors, and patients.

[**GenoSpace**](#), 617-520-4182

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NovoPath interfaces to Athenahealth EHR

NovoPath recently announced the implementation of an HL7-compliant interface between its pathology system and Athenahealth's electronic medical record system.

With the standardized interface, NovoPath and Athenahealth can reduce the time and cost required for laboratories to connect with clients, NovoPath reports.

NovoPath, 877-668-6123

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