

INFORMATICS - April 2010

Managing the Flow in Radiology

Is iPad for Medical Imaging a Game Changer?

By now, you have no doubt heard that last January, Apple Inc, Cupertino, Calif, launched the iPad, a new tablet computer based on its best-selling iPhone. What remains to be seen is whether radiologists and referring physicians will adopt the iPad, and how it affects the way imaging exams are read, referred, and reviewed.

Ed Heere, president and CEO of CoActiv, Ridgefield, Conn, thinks the iPad will grow to be a very useful and widely used tool in radiology and the medical information technology world. In fact, the company was the first to announce that it will have an enhanced iPad app available for its EXAM-PACS customers when Apple distributes the iPad in April 2010.

CoActiv has an existing iPhone app that is based on OsiriX, an open source DICOM-compatible image processing platform designed for the Mac. However, the iPhone app does not have all of the functionality of the desktop viewer. With the iPad, that limited capability will be notably expanded.



“The iPad app will give significantly more functionality, including full color views, closer to the OsiriX application for the Mac,” reported Heere in an interview.

The desktop OsiriX viewer for Apple’s Mac computers features multiplanar reconstruction (MPR), maximum intensity projection (MIP), curved MPR, volume rendering, surface rendering, stereo vision with red/blue glasses, and many other advanced viewing tools common in proprietary viewers.

According to Apple, all existing iPhone applications will be automatically compatible with the larger iPad, but Heere said that its revised iPad app will be more than a clone of CoActiv's current iPhone application.

"First, it's going to be closer to the operating system of a MAC than the operating system of the iPhone. So, it's going to have a larger screen, and it's going to have the colors. That means you will probably be able to do echocardiograms real time, full function ultrasound, and full function 3-D reconstructions on the iPad app," Heere said.

But will more functionality make radiologists trade in their laptops for iPad off-site consultations? Heere thinks so.

"We see the iPad creating a substantial change to the way we deal with medical information, whether it's reports, exams, everything. It's the future. It's going to knock the notebook out."

One of the things that will make iPad different from a laptop is its internal 3G phone connectivity. That capability makes a referring physician's reading capabilities much more convenient. The iPad won't fit in a lab coat, but it will be lighter and more portable, and not just within the confines of a Wi-Fi hotspot.

In addition, as with the current iPhone app, off-site radiologists will be able to query/retrieve and download exams from the server at any registered facility using EXAMPACS. Once images arrive on the mobile device, they may be viewed using the full range of iPad's touch-screen capabilities, including scroll, pan, zoom, and window level and measurement functions.

CT and MR exams also can be read at full resolution, since the resolution of the iPhone and iPad is up to 1024 by 1024, which is essentially the full resolution for CT and MRI. In addition to quick consults, Heere foresees referring doctors adapting quickly to iPad because its lightweight design will allow them to easily take it into the exam room, at bedside, or as a mobile teaching tool during rounds.

—Tor Valenza