

Current Issue

Features

- Tilling the Fields of Innovation
- The Complexity Conspiracy
- The Power of Passion
- Mayo Clinic At Their Fingertips
- Preparing Students for a 21st Century Global Workforce

Profiles

- Office of the CTO Technologists - PDS

Case in Point

- The Future of Enterprise IT
- From Builder to Broker

Resources

- Partner vs. Vendor
- Past Issues

Purpose-driven Tablets

2010 – Vol. II

[E-mail article](#)

Enabling Better Care, More Efficiently

By Jay Sanders

"Save my life, please!" There's an app for that. More than an app, actually. With leapfrog advances in tablet computing – highlighted by Apple's foray into the market with its much ballyhooed iPad – the next generation of devices and apps is emerging as an incredibly powerful platform that gives physicians the tools they need to make better, faster, more-informed decisions when a patient's life and health are at stake.

While advancing the state of the art, the new tablets also represent a welcome step back to an era of more-personalized care. Gone is the image of the physician or nurse making more eye contact with the screen of a bulky laptop than with the patient as they type in data. Tablets look more and more like the trusty clipboards doctors used to carry. In terms of physical interactivity, they even work more like them, thanks to the evolution of the hands-on interface.

Add in apps that put everything from a patient's medical history and prescription records to diagnostic databases literally at the doctor's fingertips, and you're promoting a higher standard of one-to-one attentiveness even as you make it possible for doctors to juggle larger patient loads.

TOWARD A NEW PARADIGM

Healthcare is a purpose-driven environment. In other words, apps rule. The question of the device on which to host them – smart phone, tablet, laptop, desktop – is clearly secondary. The good news is that today's tablets are doing a much better job of getting out of the way.

The trend is not just toward smaller, lighter, less-obtrusive devices. It's also away from operating system obstacles that distract attention from the task at hand. Things like boot-up and wake-up lag time. The whole desktop-and-file structure. Physical keyboards and mouses.

Prompted by devices already on the market, users are coming to expect always-on availability, instant multitouch responsiveness, and streamlined interfaces that let you skip the digging and get right to work.

One reason for the excitement surrounding the iPad launch is the expectation that Apple's revolutionary, app-prioritizing OS will do for the tablet world what it did for cell phones. But while Apple is generating all the buzz, it's not the first to plow this ground.

HP, Fujitsu, Motion Computing, and other PC manufacturers have been making tablets for nearly a decade, including noteworthy recent models such as the HP Touchsmart Tablet and Fujitsu LifeBook T4000 Series Tablet PC. Within healthcare, tablets have gained significant traction. One reason may be that the specialized needs of healthcare providers dovetail nicely with the specific strengths of tablet-style computing.

THE TABLET LANDSCAPE

The healthcare world has a host of proven and promising tablet devices to draw upon, from manufacturers that now include Apple. Technically, however, the new iPad is an Ultra Mobile PC not a Tablet PC. That's a distinction Apple hopes to erase. Especially since its putative Ultra Mobile PC competitors are also labeled "Entertainment Devices," a categorization Apple would prefer to transcend.

Whether healthcare organizations and other large businesses choose to embrace the iPad has less to do with how it's labeled, though, than with the quality of the apps it supports – the whole purpose-driven model. For IT directors, of course, there's also the decision of supporting the Mac as a platform, a necessary precursor to supporting the iPad or iPhone.

So, how good are the iPad's healthcare apps? Given the newness of the device, it's hard to say exactly. Based on the most popular iPhone healthcare apps, however – most of which can also run on the iPad – the prognosis looks very good. [See sidebar below]

Whether the iPad is promising enough app-wise to justify supporting the Mac platform is another question. The good news here is that integrating Macs into a traditional PC environment is easier than a lot of people think. For one thing, it doesn't have to be an either-or proposition. Macs are more than willing to play in the Windows (or Linux)

Partner News

Events

Information Week 06.09.12
7 Tips To Toughen Passwords

Fast Company 06.05.12
To Build Your Business, Smash Your Silos

Forbes 05.14.12
Broker/Integrate/Orchestrate: The New IT Operating Model

Harvard Business Review 05.03.12
Innovating in the Scary Zone

Fast Company 05.01.12
How Enemies Power Innovation

Forbes 04.26.12
The Only True Leadership is Value-based

CIO.com 04.23.12
Are BYOD Workers More Productive?

CIO Update 04.18.12
Common Vision is the Best Kind of Alignment

TechRepublic.com 04.17.12
Five ways CIOs can keep the boss - and the IT team - happy

PDS Technology News 04.11.12
Mobile technology empowers patients

MIT Technology Review 04.09.12
The Computing Trend That Will Change Everything

BusinessWeek.com 03.07.12
The Strategic CIO (Podcast)

sandbox. Apple's notebooks, in fact, can simultaneously run Mac OS X, Microsoft Windows, and Linux operating systems along with powerful, flexible desktop and server products such as the iMac, Mac Pro, Xserve, and Xsan.

Mac OS X is designed to fit smoothly into existing enterprise directory services. Mac clients work with Active Directory in much the same way Windows clients do. Mac systems can use existing Active Directory networks and mail servers, VPN servers, and applications. Active Directory administrators can establish policies on Mac systems, maintain Mac OS X user names and passwords, and authenticate Mac OS X users based on information stored in Active Directory.

Mac OS X provides robust tools for centralized management of users, groups, and computers. These allow IT staff to centrally support client systems throughout the organization and provide proactive upgrade, patch, and security services, while keeping costs and effort low. Your existing team can support the Mac on the current heterogeneous network with current business processes and existing tools.

"Our users are virtually tethered to their Fujitsu Tablet PCs ..."

At Wisconsin's Marshfield Clinic, more than 2,600 users across 45 locations are now linked to a chartless electronic medical record system using Fujitsu LifeBook T4000 and Stylistic ST5000 Series Tablet PCs, and the clinic's own proprietary software.

"Our users are virtually tethered to their Fujitsu Tablet PCs, giving them real-time access to critical patient data wherever they are," says Carl Christensen, the clinic's chief information officer. That the tablets are lightweight, wireless, and easy to use makes the tethering less painful than it may sound.

It also helps that "with so much data available, we can offer the decision support needed to help users make more-informed clinical decisions and provide more-accurate care," Christensen adds.

The investment at Marshfield Clinic has paid off. Going chartless eliminated the estimated \$4.50 expense the clinic formerly incurred each time it had to physically pull a patient record. It also freed up former chart rooms for conversion into new clinical space to see patients.

Most notably, though, going the Tablet PC route has helped boost the clinic's overall quality of patient care. Leveraging their Fujitsu Tablet PCs, healthcare providers at Marshfield Clinic can now collect and quickly input more-detailed patient information into the system. At the patient's next visit, that information is instantly available to the doctor they're consulting with. Real-time access to a patient's genetic profile or medical history, a list of drug interactions, and other critical data makes it possible to deliver truly personalized care.

HP is even readying a direct iPad competitor – Slate – that adds business-friendly extras the iPad lacks ...

THE ROAD AHEAD

Is the Tablet PC world moving toward an increasingly Apple-centric future? Possibly. Apple's track record with the iPod and iPhone signals a clear competitive advantage. As it did in the music player and cell phone worlds, Apple with the iPad appears poised to take a category that already exists and improve the user experience with great hardware, superior design, and intuitive devices that work in concert with good software. The way iTunes works is what makes the iPod truly special, and the iPhone OS and App Store are the most innovative parts of the iPhone.

But there are still plenty of competitors eager to upset the applecart. Including, significantly, HP, which has a solid handle on the personal computer and end-user category, an entrenched position in corporate computing, and a newly revamped lineup of Tablet PCs. HP is even readying a direct iPad competitor – Slate – that adds business-friendly extras the iPad lacks, including an SD memory card, USB port expandability, and front- and rear-facing cameras. It also one-ups the iPad in consumer-arena usefulness with full 1080p HD playback, Adobe Flash compatibility, and HDMI output.

No one can say for sure how it will all shake out. And in the end, which manufacturer's device is powering the app may be somewhat beside the point. In the purpose-driven world of healthcare, the app comes first. As the earlier example of the Marshfield Clinic and Fujitsu demonstrated, pairing a sturdy, reliable tablet with your own proprietary software can produce noteworthy results.

Perhaps the best rule of thumb for tablet computing in the healthcare environment is simply that there is no overarching rule of thumb. Just as patients do best with individualized treatment rather than a cookie-cutter approach, so will IT leaders in the healthcare world do best by finding the combination of Tablet PC and apps that best fits the unique needs of their physicians and patients, even if that tablet isn't the newest, flashiest kid on the block.

Sources: Case Study: Marshfield Clinic, Fujitsu Computer Systems Corporation; Tabula Rasa, Steven Levy, Wired Magazine, April 2010; Mac for Your Enterprise, Apple Inc.; Leaked HP Slate Specs Reveal Weaknesses, Tony Bradley, PCWorld website, April 06, 2010

TOP IPHONE HEALTHCARE APPS

Epocrates (Free)

Provides comprehensive drug reference at the point of care – dosing, adverse reactions, formularies, pricing, and pill pictures. Can also be used to check for drug interactions for up to 30 drugs at a time, and to identify pills by their physical characteristics and imprint code.

iPharmacy (\$0.99)

Drug reference app with the most commonly prescribed drugs for specific conditions.

ER-ICU Calculator (\$0.99)

Allows physicians to compute ER-ICU calculations on the fly. Includes calculators for Apgar score, Basal energy expenditure, MELD score, oxygenation index, PERC rule, TIMI risk scores, and many more.

VisualDX (Free)

Diagnostic support app for dermatological and other visual conditions. Allows physicians to validate patient conditions by providing multiple images of skin disorders common to various diseases. Also provides next steps for treatment and patient care.

Clinical Trials (\$0.99)

Mobile access to information on more than 78,000 registered clinical trials from the National Library of Medicine and National Institutes of Health database.

DictateOnTheGo (Free)

myDictation Pro (Free)

Transforms iPhone into a mobile dictation system that allows physicians to record patient notes and upload them wirelessly to a transcriptionist.

Allscripts Remote (Free)

EMR Mobile (Free)

Remote access via iPhone to Allscripts EMR (Allscripts Remote) or eClinicalWorks EMR (EMR Mobile), and practice management software.

Diagnosaurus DDX (\$0.99)

STATworkUP (\$24.99)

Mobile diagnosis support. Diagnosaurus DDX can search more than 1,000 diagnoses by organ system, symptom, or disease. STATworkUP contains a collection of evidence-based facts and associations that can help guide problem assessments. Physicians can quickly correlate symptoms and signs from a wide array of associated diagnoses and integrate appropriate studies and treatments.

Source: www.healthcaretechnologyonline.com