

Features healthcare professionals need.

The Dell™ Venue™ 8 Pro powered by Intel® offered more features for everyday healthcare tasks than the Apple® iPad mini™2.



View multiple apps simultaneously



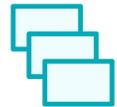
Print documents*



Create tasks with speech-to-text*



Pin tasks to start screen for easy-access notifications



Organize workflow with multiple dashboards†

*in Allscripts Wand™ for TouchWorks® app

†in VitalHub® Chart

Every day, technology improves productivity in professional fields around the world—and healthcare is no exception. As doctors, nurses, and other healthcare professionals integrate technology into their daily tasks, they learn which features help them most. Increasingly, their discoveries suggest that touch-enabled devices and the apps that run on them—which can provide new levels of freedom and flexibility—are more effective than traditional laptops. Because these touch devices vary considerably and professionals want a device on which they can standardize, it is important to select the right one. The Intel processor-powered Dell Venue 8 Pro offers a great deal in the way of features, functionality, and versatility.

At Principled Technologies, we researched the wants and needs of healthcare professionals considering new touchscreen devices. We conducted interviews with a group of physicians, nurses, and other healthcare professionals to learn about how they use technology in their workflow. Then we compared the capabilities of an Intel processor-powered Dell Venue 8 Pro and an ARM®-based Apple iPad mini 2 to see which device could offer more to these workers and their colleagues.

In our hands-on testing, we found that the Dell Venue 8 Pro offered more features for healthcare professionals than the iPad mini 2, including multitasking, printing capability, and built-in support for speech-to-text dictation. The Dell Venue 8 Pro also provided greater functionality in many of the apps we tested—including Allscripts Wand for TouchWorks and VitalHub Chart. If you're integrating touch-enabled devices into your medical practice, the Intel processor-powered Dell Venue 8 Pro can offer a better experience.



MORE FEATURES FOR HEALTHCARE PROFESSIONALS WITH TABLETS POWERED BY INTEL

Healthcare professionals perform a wide variety of tasks in a typical day. A full-featured device that can make the most of software tools helps healthcare workers do their jobs in tasks such as making a clinical visit, doing rounds, or giving a presentation. It can also be a valuable tool for communicating with patients.

We set out to determine how healthcare professionals currently use touch-enabled devices, and how they would like to use them in the future. We interviewed professionals representing the following groups:

- Primary care providers working in a private practice
- Registered nurses working in a hospital
- Orthopedic surgeons operating in a private practice
- Cardiologists operating in a hospital
- Pharmaceutical sales representatives

We found that these individuals needed their devices to do a great deal, including providing easy and intuitive access to electronic health records (EHR); data entry; multitasking capability for switching between patient charts and faxed documents; and printer connectivity for printing lab results, charts, and forms. In addition to these basic needs, the professionals we interviewed also talked about the capabilities their ideal device would offer: voice-to-text technology for dictating notes and tasks, support for external monitors so they could make presentations from a touch-enabled device, and workflow customization and optimization options.

Based on our interviews, we determined that one of the most important things a healthcare worker needs in a device is versatility. With this in mind, we compared the following two devices and noted features that the healthcare workers might use in their daily workflow:

- **Dell Venue 8 Pro**, powered by an Intel Atom™ Z2580 processor, running Microsoft® Windows® 8.1
- **Apple iPad mini 2**, powered by an ARM-based Apple A7 processor, running iOS 8.0.2

Both systems have user interfaces designed for touch and have similar display sizes. For detailed information on the tablets, see [Appendix A](#). For more on how we compared features, see [Appendix B](#).

GENERAL FEATURES

The two devices we examined, the Dell Venue 8 Pro and the Apple iPad mini 2, differ in both hardware and resource capacity. For example, the Intel Atom processor-powered Dell Venue 8 Pro features a microSD™ expansion slot, which can benefit healthcare professionals when they want to expand their device's storage capacity. The iPad mini 2 has no such feature. Figure 1 presents the general hardware features of the two systems.

	 Dell Venue 8 Pro	 Apple iPad mini 2
Rear camera (MP)	5.0	5.0
Front camera (MP)	2.0	1.2
Display size (inches)	8.0	7.9
Resolution	1280 × 800	2048 × 1536
USB port	✓ (Micro USB OTG ¹)	✗
microSD	✓	✗
Battery capacity (Wh)	15.5	24.3
Weight	292 g	331 g
Storage (GB)	64	64
RAM (GB)	2	1

Figure 1: The tested tablets and their hardware features.

WHAT WE FOUND

Healthcare professionals want technology that can simplify their daily routines, potentially freeing time for communication and interaction with patients. When we interviewed professionals from across the industry and asked them how they currently use technology in their workplace, we found that they want a device that runs feature-rich versions of necessary apps, such as Allscripts Wand, and common productivity software, such as Microsoft Word and PowerPoint®.

¹ www.usb.org/developers/onthego/

Electronic health records: Allscripts Wand

Allscripts Wand for Windows and Allscripts Wand for TouchWorks are electronic health records systems available for both the Windows and iOS platforms, respectively. The applications are designed for physicians and nurses using touch-enabled devices in a hospital or clinic setting.

While the general functionality of the apps was similar across the Windows and iOS platforms, we noticed significant features missing from the iPad mini 2. For instance, only the Dell Venue 8 Pro supported document printing within Allscripts Wand. That means that if you wanted to print lab results with the iPad mini 2, you would have to rely on a workstation or another printing-capable computer. While both platforms allow the user to create and assign tasks, only the Dell Venue 8 Pro enabled us to use speech-to-text input to do so. Figure 2 lists the Allscripts Wand features that we found to be useful to healthcare professionals based on our interviews, and how the Dell Venue 8 Pro and iPad mini 2 compared in their support of those features.

Allscripts Wand	 Dell Venue 8 Pro	 Apple iPad mini 2
Document printing	✓	✗
Pin tasks to start screen	✓	✗
Display graphs of patient vitals	✓	✓
Windows semantic zoom ²	✓	✗
Create and assign tasks	✓	✓
Speech-to-text input for task creation and assignment	✓	✗
Dictation for patient documents and notes	✓	✗

Figure 2: Feature capability comparison between the Dell Venue 8 Pro and Apple iPad mini 2 using Allscripts Wand for Windows and Allscripts Wand for TouchWorks.

² msdn.microsoft.com/en-us/library/windows/apps/dn468034.aspx

Electronic health records: VitalHub Chart

Similar to Allscripts Wand, VitalHub Chart is another electronic health records system that we looked at in order to compare the capabilities of the Dell Venue 8 Pro and iPad mini 2. The app provides a database for storing, updating, and reviewing patient vital statistics.

When running VitalHub Chart, we found the Dell Venue 8 Pro to be more full-featured than the iPad mini 2. For instance, the application divides patient information into different categories and displays them on a customizable dashboard. While the version on the iPad mini 2 allowed customizing patient dashboards, we could not save and display different dashboard presets as we could with the Dell Venue 8 Pro. When it comes to multitasking, the Dell Venue 8 Pro clearly had the advantage, as we could display the VitalHub Chart application alongside PDF and Word documents. If you wanted to read a document for a patient while viewing their chart with the iPad mini 2, you would have to switch back and forth between the full-screen app and the document. Figure 3 illustrates how the Dell Venue 8 Pro and the Windows 8 user interface enabled us to view more than one thing at a time.

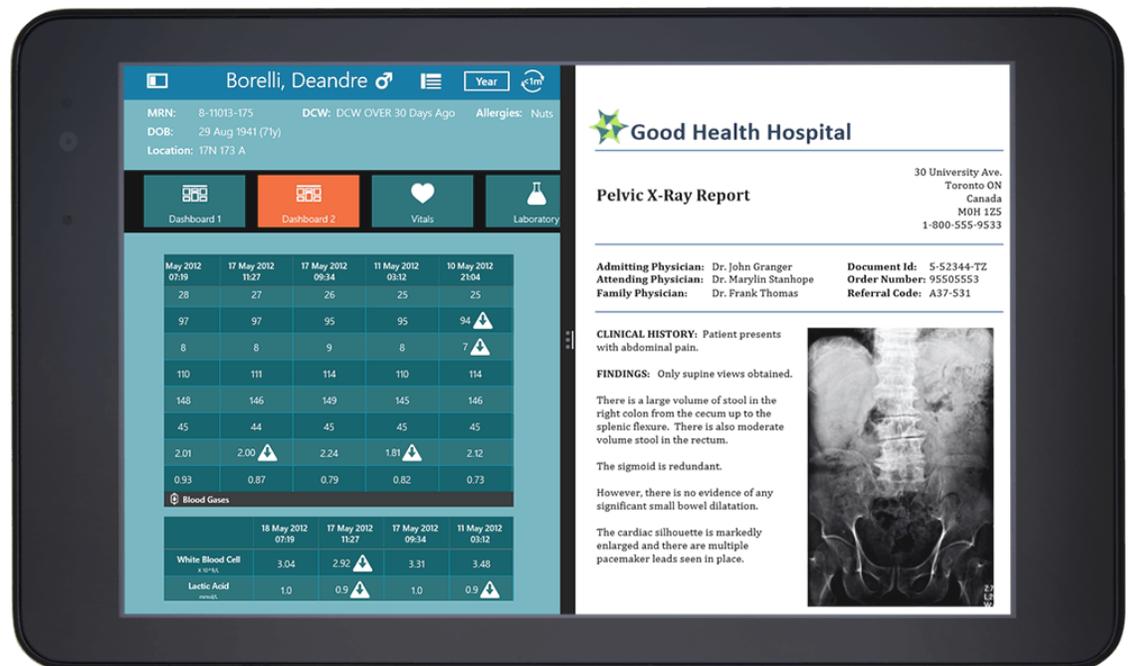


Figure 3: An example of how the Dell Venue 8 Pro displayed apps side by side, which allows users to view desktop applications and documents alongside touch-optimized Windows Store apps. The iPad mini 2 could only show one app at a time.

With the Windows Charms bar, which appears when you swipe from the right edge of the screen, we could search from anywhere in the VitalHub Chart app. With the iPad mini 2, we found that if we wanted to search for a patient from a certain screen, we had to first return to the app's home screen to find the search bar. With the Dell

Venue 8 Pro, we could search for patients from any screen within the app, making the workflow easier and less time-consuming.

Figure 4 lists the VitalHub Chart features that we found to be useful to healthcare professionals based on our interviews, and how the Dell Venue 8 Pro and iPad mini 2 compared in their support of those features.

VitalHub Chart	 Dell Venue 8 Pro	 Apple iPad mini 2
Customize and edit dashboards	✓	✓
Support for multiple dashboards	✓	✗
View VitalHub and another app at the same time (multitasking)	✓	✗
Search for patients from anywhere in the VitalHub Chart app	✓	✗
View lab history as a timeline	✓	✓
List patients from anywhere in the VitalHub Chart app	✓	✗

Figure 4: Feature capability comparison between the Dell Venue 8 Pro and Apple iPad mini 2 in VitalHub Chart.

Productivity: Office 365 applications

We also looked at how a healthcare professional’s experience might differ when using Microsoft Office 365™ productivity applications on the Dell Venue 8 Pro and iPad mini 2. In our interviews with healthcare professionals, we found that while physicians and nurses are seeing more and more of their workflow integrated into their EHRs, they still rely on Microsoft Office applications, including Word, PowerPoint, and Excel®, to write summary reports, give presentations, and collect administrative data.

Although the Office apps for iOS have gained functionality, we still found crucial features missing on the iPad mini 2. Healthcare professionals must be able to encrypt and decrypt documents to protect patient privacy, but we found that we could not password-protect Office documents in the Office for iPad apps on the iPad mini 2. Figure

5 shows how the Dell Venue 8 Pro and iPad mini 2 compared in their support of features in Office 365 productivity applications.

Office 365 productivity applications	 Dell Venue 8 Pro	 Apple iPad mini 2
Save Word and PowerPoint presentations locally as PDF files	✓	✗
View multiple Office apps and documents simultaneously	✓	✗
Encrypt Office documents with a password	✓	✗
Support for custom fonts in Word	✓	✗

Figure 5: Feature capability comparison between the Dell Venue 8 Pro and Apple iPad mini 2 in Microsoft Office 365 productivity applications.

AT THE END OF THE DAY

As touch-enabled technology makes its way into the medical and healthcare sector, it's important to choose the right device for your needs. In our interviews with physicians, nurses, and sales representatives, versatility emerged as the top priority; healthcare professionals are looking for a device that can help them perform all of the varied tasks that arise as they go about their daily work. Some touch-enabled devices offer important features—in terms of both hardware and software—that others lack. We found the Intel processor-powered Dell Venue 8 Pro offered better feature support than the iPad mini 2, making it a better and more versatile choice for healthcare professionals.

APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 6 provides detailed configuration information for the test systems.

System	Dell Venue 8 Pro	Apple iPad mini 2
Processor	Intel Atom Z2580	Apple A7
Processor (GHz)	2	1.3
Processor cores	2	2
Memory	2GB DDR3 RAM	1GB DDR3 RAM
Storage	64GB SSD	64GB SSD
Battery capacity	15.5 Wh	24.3 Wh
Display	8" (1280 × 800)	7.9" (2048 × 1536)
Wireless	802.11 b/g/n	802.11 a/b/g/n
Bluetooth®	Bluetooth 4.0	Bluetooth 4.0
USB ports	1 × Micro USB (OTG capable)	None
System weight	292 g	331 g
Front camera	2.0MP	1.2MP
Rear camera	5.0MP	5.0MP
OS	Microsoft Windows 8.1	Apple iOS 8.0.2

Figure 6: Detailed configuration information for the two tablets.

APPENDIX B – ABOUT OUR FEATURE COMPARISONS

We evaluated each device’s feature capabilities by using the test applications (Allscripts Wand for TouchWorks, VitalHub Chart, and the Office 365 suite) and determining the most important features. We checked to see which features each device supported. For example, for determining printing support in Allscripts Wand for TouchWorks, we determined that the Windows platform was capable of printing documents while the iOS application had no option for printing.

ABOUT PRINCIPLED TECHNOLOGIES



Principled Technologies, Inc.
1007 Slater Road, Suite 300
Durham, NC, 27703
www.principledtechnologies.com

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