Pocket Pad takes mobile medical care to the next level

Made exclusively for medical applications and instant data access on-the-go

In recent years, with the increasing popularity of commercial tablet computers, hospitals have begun incorporating tablet devices into clinical environments to improve the care and services provided to patients. However, in terms of operating system compatibility and stability, tablet computers specifically designed for medical platforms and applications offer superior performance compared to generic consumer products.

The lightweight Pocket Pad: a new standard in mobile clinical care

According to a survey conducted by Manhattan Research in 2013, 62% of physicians in the U.S. use tablet computers at work, and as many as 80% hope to utilize mobile devices for clinical work in the future. Another survey conducted by Kantar Media in 2013 found that 81% of doctors use smart phones to facilitate professional practices, while 51% currently use tablet computers to perform work-related tasks. In recent years, numerous countries worldwide have experienced the constraints of limited healthcare resources. The prevalence of wireless communications and the Internet of Things has also contributed to rapid developments in mobile medical care. Many medical facilities are now utilizing tablet devices to increase ward round efficiency, reduce operational costs, and ensure patients receive timely, adequate, safe, and effective high-quality treatment and care.

Currently, many medical practitioners are using their personal mobile devices or other commercially available products for work-related tasks. However, these devices are unable to fully support the demands of a clinical environment or satisfy the practical needs of medical personnel. To address this issue, manufacturers have developed clinical care-specific tablet computers, such as the Advantech mobile medical care handheld Pocket Pad, a product expressly designed for patient treatment and care. The Pocket Pad is a Windows 8.1 tablet computer with a 7" screen, features a built-in barcode scanner, NFC, and GPS, and weighs a mere 400 grams. Its IP54 dust and fluid-resistant design allows medical personnel to clean the device with rubbing alcohol, further preventing the spread of contagions. In addition, the Pocket Pad features 90-cm shock resistance, thereby providing the enhanced safety necessary in bustling clinical settings.

Comparison between Advantech Pocket Pad and Apple iPad mini Retina		
	Advantech Pocket Pad	**Apple iPad mini Retina**
CPU	**WIN!** More Powerful (Atom Bay Trail-T Z3770 Quad Core 1.46 GHz (up to 2.4 GHz))	(A7 1.3~1.4 GHz)
Memory	**WIN!** Larger (4 GB DDR3)	(1 GB DDR3)
Storage	32 GB eMMC	16/32/64/128 GB flash
Storage Extension	**WIN!** up to 64 GB (with microSD)	N/A
Battery — Runtime	6~8 hours	**WIN!** 9~10 hours
Battery — Charging Time	**WIN!** Quick Charge (2-hr, power off)	Normal Charge (At least 4 hrs)
Camera	Front: 2.0 Mega pixel/FF Rear: 8.0 Mega pixel/Flash/AF	Front: 1.2 Mega pixel/AF Rear: 5.0 Mega pixel/AF
Operating System	**WIN!** Windows 8.1 Industry Pro for easy integration	iOS 7
Communications	GPS, Bluetooth V4.0, NFC	GPS (optional), 3G(optional), Bluetooth V4.0
H/W Barcode	**WIN!** With 1D/2D Barcode for easy identifying and tracking	N/A
Dimensions (W x H x D)	200 x 121 x 14.5 (mm)	200 x 134.7 x 7.5 (mm)
Weight	400g	**WIN!** 340g
Water / Dust Resistance	**WIN!** IP54, protected from dust or water damage Alcohol resistant for cleaning purpose	N/A
Drop Resistance	**WIN!** Height: 90cm, for 6 faces	N/A

Portable medical records enable doctors to access orders at patient bedsides

The Pocket Pad enables physicians to remain on-the-go by facilitating instant access to patient records and data retrieval from PACS/HIS systems. The built-in camera can be used to photograph patient conditions in real-time, and this evidence can then be included in patient records. The Windows 8.1 operating system is fully compatible with medical facility HIS systems, which allows doctors to issue orders and prescriptions directly at the point of care. Numerous hospitals have purchased commercial tablets to provide physicians with instant access to patient records. However, not all commercial tablet computers are convenient to carry, and determining the appropriate place to leave such devices when conducting physical examinations presents an additional concern for doctors. By contrast, Advantech's 7" tablet is pocket-sized and extremely portable, which enables doctors to comfortably and easily conduct ward rounds. Additionally, applications developed on Microsoft platforms require data exchange middleware to be operated on iOS or Android-supported devices. If the middleware is not well designed, data losses or garbled coding may occur during data exchange operations. Generic tablet devices that lack adequate shock protection can also be damaged if accidentally dropped. One hospital in Australia that purchased several iPads for doctors to use on ward rounds experienced a high rate of device malfunctions. Internal investigations revealed that each doctor broke an average of 2 to 3 iPads over a period of 3 months. These findings indicate that although commercial tablet computers such as iPads may initially seem less expensive, the total costs are often higher because hospitals are obliged to purchase multiple spares for damaged and malfunctioning devices.

The Pocket Pad electronic records reduce clinical errors resulting from transcription errors

Nursing personnel typically assess patients and record their vitals several times a day. For busy medical personnel, the risk of transcription errors increases. To address this issue, the Pocket Pad was designed to support identity recognition through barcode scanning. Medical personnel are able to scan patient records to verify identity before providing care, thereby avoiding treatment errors and disputes. Additionally, nursing personnel can use the Pocket Pad to scan patient identity and medication barcodes, obtain detailed information regarding prescriptions, patient history, and medication instructions, and make photographic records of wound conditions. The Pocket Pad also enables chief residents to be consulted in real-time through Skype. This process of digitalization reduces the likelihood of written transcription errors and enhances work efficiency. In the past, medical carts were the primary means for transporting supplies and medication between wards. However, not all points of care were easily accessible because of limited ward space and the difficulty of navigating bulky carts. By contrast, using the Pocket Pad, medical personnel can easily administer treatments and medications at all points of care, thereby improving the medical care provided to patients. The Pocket Pad is IP54 dust and fluid resistant and equipped with an anti-bacterial casing. Furthermore, the Pocket Pad is resistant to chemicals and can be wiped with rubbing alcohol for convenient sanitation and disinfection. The Pocket Pad has an average battery lifespan of 6 to 8 hours (4 to 6 hours of uninterrupted use) and can be fully recharged in just 2 hours. Thus, medical personnel can be assured that the Pocket Pad has sufficient battery power to last the duration of a full shift.

Pocket Pad enables OR personnel to conduct medical supplies inventories

The management of operating room (OR) equipment and supplies is also important in maintaining quality of care and patient safety. Advantech's Pocket Pad is equipped with a barcode scanner and RFID reader for greater control of medical equipment and inventory management. Effective inventory management reduces the likelihood of operating equipment shortages and lowers OR medical supplies costs. The lightweight Pocket Pad enables OR personnel to easily and conveniently conduct medical equipment and supplies inventories. The IP54-rated dust and fluid resistance of the Pocket Pad satisfies OR sanitation requirements, and its 90-cm shock-resistant design greatly reduces the likelihood of accidental damage during equipment Inventories. The Pocket Pad supports multiple barcode types, including2D barcodes, QR codes, and NFC codes, and is fully compatible with existing medical facility HIS systems.