Using Mobile Devices for F&B Inventory Control

by Bill Schwartz

Given the large number of items purchased and stored by casino food and beverage departments, it is not surprising that F&B managers look for ways to speed up the inventory process. Mobile (hand-held) computers with built-in scanners seem like an ideal solution. In fact, mobile devices can represent a solution to many F&B data collection challenges, and provide a number of other benefits to the accounting department as well.

The three fundamental areas of knowledge required for successful use of mobile devices are hardware, data communications and software. This article will examine all three areas, with special emphasis on the software, since the software is the most important and least understood aspect of mobile device use. All three aspects will be examined in relation to the food and beverage inventory control function, as opposed to a generic discussion of mobile devices, which would open the door to numerous options not necessarily viable for F&B operation use.

**Mobile Device Hardware**

Mobile devices come in many varieties, all the way from cell phones that run Microsoft’s Pocket PC software (which are therefore capable of running F&B software), to generic mobile devices that may or may not include built-in scanners, to heavy-duty mobile devices with scanners that can be dropped from 4-6 feet and can withstand wide temperature ranges.

While F&B inventory software can run on all these types, assuming they are compatible with Microsoft Windows, only the rugged versions with scanners make good sense. Unfortunately, this type is also the most expensive of the various options, generally ranging in price from $1,500 to $3,000 per device. Devices used in foodservice environments must include scanners to be truly efficient, since typing on the small keyboards, many of which only have numeric keypads, is slow and cumbersome. The scanner makes all the difference in speed and accuracy. These devices must also be capable of wide temperature ranges, since inventory is counted in freezers, refrigerated boxes, and loading docks, where temperatures can range from 0 to 110 degrees Fahrenheit. Devices not capable of handling these temperature ranges will eventually fail as a result of condensation build-up inside the unit or from overheating.

Even the heavy-duty scanners described above can be problematic if they are not configured with enough memory (RAM), or if they come with numeric keyboards only. Sufficient memory is required in order to store the large amount of data associated with the sheer number of inventory items that must be downloaded to the device, as well as the forms required for inventory, purchasing, transfers and other function which make the device more useful. In addition, because many items do not have bar codes, it is necessary to type in names of items for lookup purposes. Full alpha-numeric keyboards make the device far more efficient and useful.

**Communicating With Mobile Devices**

Mobile devices communicate with host computers (desktops or servers) by either connecting directly through a cable, or over wireless networks. When connected with a cable, they communicate through a Microsoft program called ActiveSync. Once the device is connected, it is up to the inventory software to figure out how to move data to or from the device.

Mobile devices can also communicate using wireless technology. Wireless circuitry in the device allows data to be broadcast and received from another wireless device called an access point (AP). The access point is directly connected to the host computer or server in most cases.

Wireless technology is far more efficient than requiring a cable, since the user does not have to physically move to the computer and attach the device to a cable. The wireless approach also allows data to be communicated on a timelier basis, since the device can continually communicate to the host, even while the user is receiving goods or taking inventory. Just like cell phones, wireless communication is limited to areas of the building where the device can receive a signal from the access point. Some locations such as freezers and coolers are not conducive to wireless communications. For that reason, well-designed systems store data on the device and transmit it only when in range of a signal. Users continue to work uninterrupted even if a signal is unavailable.

**F&B Software for Mobile Devices**

Without inventory software, the mobile device is essentially useless. The software provided by the F&B inventory system developer makes the device capable of performing the necessary functions. In addition, not all inventory software developers have software for use with mobile devices. Those who do may offer vastly different capabilities on the devices as well.

As discussed briefly in the preceding section, the device may not always be in communication with the host. Some software developers provide software that requires the device to be in constant communication with the host. In some cases, the developer provides little or no software that is actually installed on the device. Instead, the device acts as a “dumb” terminal, and simply accesses the software and data on the host. This approach has some advantages, in that there is never a need to store data on the device, and there is also no need to install software on the device.

But the disadvantages far outweigh the advantages in this approach. First, the device must be wireless, since requiring a
cable while using the device to take inventory would be impractical. Second, the device must be in constant communication with the host. Any disruption would render the device unusable, just as a cell phone with no signal would be. For this reason, the “smart” terminal approach, where the device runs software and stores data locally is preferred.

Functionality is where software developers distinguish themselves from each other. Well-designed mobile systems allow users to take inventory, receive goods, create orders, enter requisitions and create transfers. In addition, the ability to add new items to the system is important, especially when receiving goods.

Perhaps two of the most important capabilities are the search functions and the flexibility associated with units. Users must be able to quickly “pull up” items from the database as they encounter them taking inventory or receiving. Using the scanner is helpful, but it is occasionally necessary to locate items by name or by type. The better the system is designed for these search capabilities, the faster it is to use.

Unit descriptions such as case, pound, each, slice and hundreds of others are typically a sore point for inventory and other forms. Items are invariably received in the wrong units or counted in the wrong units, and significant time is spent making corrections after the reports are produced with wrong numbers. Mobile devices need to provide the ability to change units on the fly, enabling users the most flexibility possible for counting and receiving.

Of course, the ability to update bar code information, communicate data back and forth from the host system and perform other more routine functions play a significant role in the success of the mobile device in the F&B environment. But in the end, well-designed mobile device software typically pays for itself after a few months of taking inventory. Eliminating the preparation of forms, writing numbers on those forms, entering those numbers into the system, making unit corrections and other changes significantly reduces the time invested, and results in the ability to have inventory information available immediately after taking inventory. Automating the purchasing and transfer functions are icing on the cake.

The best way to judge the value of a mobile device used for F&B automation is to simply try to take one away from a satisfied user. But be careful, things could get ugly. ♠

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