UNDERSTANDING KIOSK REQUIREMENTS:
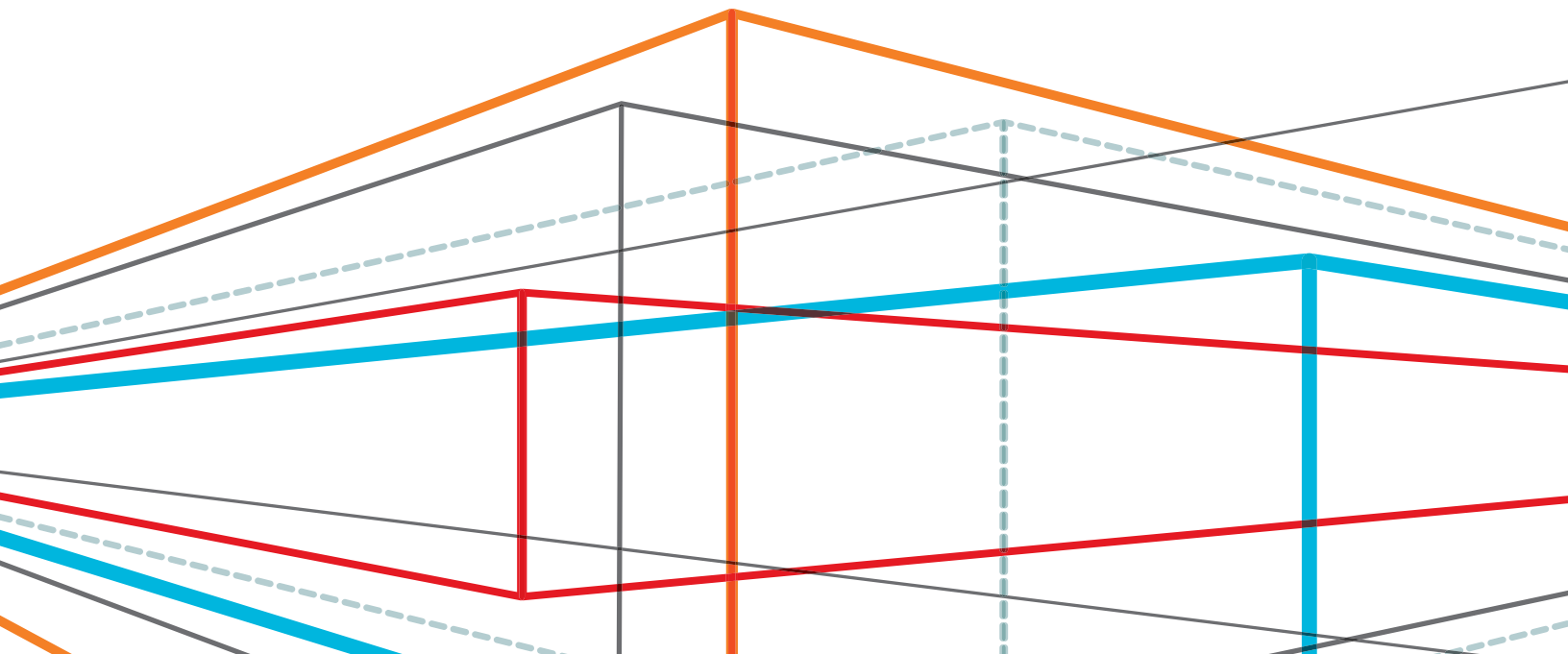## Optimizing Design, Placement and Component Selection to Meet Specific Use Cases, Environments and Goals

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EXECUTIVE SUMMARY

Kiosks are increasingly common—hundreds of thousands of new units are being deployed each year, in a variety of retail, hospitality, healthcare and other environments—but are also increasingly complex, offering a range of applications, displays, multimedia capabilities and integration options. Even when organizations have clear goals for what they want their kiosks to do, they still face many difficult decisions about the kiosk design, components, placement and integration. No kiosk configuration is best for all applications, but there are best practices to help guide your design and deployment decisions to provide maximum customer convenience and value. This white paper outlines the fundamental requirements for kiosk solutions, and identifies additional considerations and tactics to make loyalty, coupon, ordering, checkout, product information, registry and other specific projects more successful.

FUNDAMENTAL REQUIREMENTS

Reliability and ease of use are essential for any kiosk application. Regardless of how kiosks are used or the goals for deploying them, if kiosks don't serve customers consistently and conveniently, they won't deliver benefits. Kiosks must also be easy for the enterprise to integrate and support. Programs will struggle to meet service, satisfaction and sales goals if keeping kiosks reliable requires extensive hands-on staff support. Firms that don't track how their kiosks are used and don't have processes in place to quickly respond to problems had the least success in improving customer satisfaction, conversion rates and other key metrics, according to a post-implementation analysis of 260 companies.

Daily monitoring is a best practice and can be enhanced by kiosk features that support remote monitoring, management and troubleshooting, along with easy on-site care. These features include network connectivity and the ability for printers, processors and other internal components to issue alerts when there are error conditions. Kiosks that are compatible with applications used to monitor point-of-sale (POS) and IT assets are valuable because they allow the organization to leverage its legacy assets and have the convenience of checking multiple devices with a single system.

To further simplify support and minimize downtime, staff members should be able to easily access kiosks to load new printer media and perform other routine support tasks. Organizations should commit to staff training to facilitate successful kiosk deployment and ongoing use.

When applications warrant, kiosks should also integrate tightly with information systems and software applications. For example, a kiosk program intended to improve customer loyalty should integrate with existing loyalty programs and customer relationship management (CRM) applications. Kiosks may also need to integrate with POS, inventory, order management and data mining applications. Kiosks are literally standalone systems, but there is no reason they can't be integrated with enterprise software applications.

Businesses usually have limited or no opportunity to train their customers on kiosks, so applications must be as intuitive as possible, and help should also be quickly available either via on-screen instructions or a nearby employee. Transactions shouldn't take more than six steps or screens to complete. The importance of the application design and customer interface is reflected in the fact that most kiosk systems are created by specialized solution providers who focus heavily on kiosks and specific industries or applications—not general-purpose integration or off-the-shelf software programs.

Businesses have more opportunities to encourage their customers to use kiosks than to train them on the kiosks themselves. Promotions and signage should set clear expectations for what the kiosk can and cannot do and articulate the benefits of using it. Promotion, signage, demonstrations, kiosk placement and having staff available to help are all resources that organizations can use to increase customer satisfaction with kiosks and utilization rates.

APPLICATION-SPECIFIC CONSIDERATIONS

The requirements and tips presented above are applicable to all kiosk programs. The following sections highlight how device design, placement, applications and components can be optimized for common kiosk applications.

Self Checkout

Ease of integration is key for self-checkout kiosks, which must interface with POS systems and peripheral devices such as barcode scanners and scales. The receipt printer is also a key component consideration. Printers with large media capacities provide more uptime because receipt media needs to be reloaded less often. The printer should also have design features that provide safeguards against jamming when customers pull on the receipt before printing is completed. Many customers choose self checkout because they want to avoid longer lines in cashier-staffed lanes, so application designs and peripherals that support fast transaction processing are advantageous.

Coupons, Promotions and Loyalty

Kiosks deployed to deliver coupons or other promotions to customers should be positioned near the front of the store or the promoted department to maximize utilization. Including a reader for loyalty cards provides a way to capture demographic information about who is using the kiosk, and the information can be used to offer coupons and promotions tailored to the customer's interests and preferences. Another way to capture user information is to build questions or a survey into the application, but this tactic could hurt utilization if the customer doesn't want to spend time on the kiosk. The coupon or certificate output from the kiosk reflects the store's image, so the integrated printer should be capable of supporting quality materials and producing sharp graphics. Kiosks deployed to support loyalty programs should be conveniently located to encourage customers to use them every time they visit the store. Alternatively, kiosks could be installed to draw more customers to low-traffic areas.

Product Information

Placement is key for product information kiosks—they should be situated near where the product is displayed, so customers can easily get the product after learning about it on the kiosk. Depending on the complexity of the product line or likelihood of confusion with other products, it may be desirable to provide video and other multimedia descriptors on the kiosk. If product descriptions, how-to tips, project materials checklists and other content is fairly static, the information can be held in memory and the kiosk may not need to be networked.

Ordering

Clarity is essential for ordering kiosks—both on the screen and on the printed order ticket or receipt. The screen and printer are important peripherals, so high-quality models suited for the throughput requirements should be selected. If the ordering kiosk will also accept payment, security support is another important consideration, especially if the device will be networked wirelessly.

Gift Card

Self-service gift card kiosks almost always accept payment, so system security and receipt printing are essential requirements. There is a lot of placement flexibility for gift card kiosks, so they can be positioned in less congested areas. Another option is to install them near customer service counters, to divert customers who might otherwise stand in line to engage a store associate. Reducing the time customers spend in line is a proven way to improve customer satisfaction, so there is a clear benefit to offering kiosks for the relatively simple transaction of purchasing gift cards.

Registry

Registry kiosks can do more than show the user a list of registered items. Applications can be set to print a ticket directing the user to the exact aisle or shelf

location where the desired item is kept. Registry kiosks give users the ability to review information independently of a store associate. If the retailer wants its staff to interact with registry shoppers, the kiosk application can generate a message to direct an associate to the kiosk. Registry kiosks should be networked, so that the registry is updated when items are selected or ordered to prevent duplicate purchases.

HARDWARE CONSIDERATIONS
CUSTOM KIOSKS

The use cases described above referenced some of the features and functionality needed in kiosk equipment. The following sections provide an overview of what's available and identify some of the key differentiators among kiosk components.

Housings

As noted, ease of use is essential for a successful kiosk program. The kiosk's housing and appearance impact ease of use because they help form the customer's first impression. Whether the kiosk looks inviting or intimidating, convenient or complex, or rough or refined helps shape the customer's attitude. The kiosk also needs to meet store operations needs—it should fit easily in the space available without blocking aisles or interfering with displays. Compact components are valued. Usage and environmental factors also influence design. Kiosks that will be used outdoors or otherwise exposed to water, wind and changes in temperature and light should be built with suitable peripherals to withstand these conditions. For example, touchscreen input may be preferable to a keyboard in dirty and dusty environments where particulates can interfere with keyboard performance.

Displays

The display needs to match the environment and the application needs. Outdoor kiosks need displays that can self-adjust for lighting conditions and remain readable in bright sunlight. A kiosk with high-end audio and video capabilities for promotional applications would be overkill for ordering at the supermarket deli counter. Durability is a key consideration for touchscreens. They are designed to be operated by fingertips, but untrained customers could use cards, keys and other hard objects that could scratch the surface.

Printers

The printer is a major variable for kiosk reliability and also has sometimes surprising effects on the user experience. For example, some printers automatically cut the receipt or other printed output, while others require the user to tear it off. Tearing increases the chances the media will become misaligned and jam, which can put the kiosk out of commission until it is serviced by a staffer. Some printers can detect jams and other error conditions and automatically issue a support alert, while others have no communication capability.

Whether a receipt is torn off or cut may seem inconsequential, but it illustrates how details contribute to downtime and customer satisfaction.

Because the printer directly impacts the customer experience, it is not a component to compromise during kiosk design. To ensure the printer that best fits their needs will physically fit into the kiosk, organizations should begin specifying and evaluating printers early in the kiosk development process. Here are some of the features and performance variables that set kiosk printers apart.

Paper presentation and cutting capability is just one detail that differentiates kiosk printers. Others that impact reliability and support requirements include print method, media support, programmability, interfaces, supported fonts and barcodes, and remote management capability.

Print method is a relatively simple selection because thermal is an extremely reliable print technology that supports kiosk output needs. Thermal printers have few moving parts, which lessens the chance of mechanical failure. Unlike impact, laser or inkjet printers, there are

no ribbons, ink or toner to replace with direct thermal printers, which reduces downtime associated with restocking. Thermal printers use heat-sensitive media that is available in a variety of styles and quality levels to support different durability needs.

Kiosk developers must decide if the application will control the printer through a software driver or a direct connection, in which the printer uses programming to interpret the incoming data stream to prepare the output. The leading factors in this decision are the kiosk operating system, need to integrate with a POS system, and the nature of printed output. Drivers are available for Windows® and POS operating systems, and are the most common choice. Drivers are simple to use and are an excellent option if printer configurations will not be frequently changed. Direct connection provides more control over printer features (e.g., quality settings, supported fonts and barcode formats) and deeper integration with enterprise applications. If direct connection is selected, an interface type must also be selected. The RS-232 serial interface is sufficient for text-only printing and graphics printing that does not require fast output. USB supports faster print speeds and is generally favored for more responsive graphics printing.

Because printers are a key component to overall kiosk reliability, they should offer features that minimize downtime by issuing proactive alerts and allow remote monitoring and troubleshooting. Advanced, networkable kiosk printers can automatically send messages to pagers, cell phones or e-mail addresses. This functionality is typically used to communicate low paper or paper jam alerts to store associates and managers. Some printers have more sophisticated remote management capabilities so support staff can troubleshoot printers, load new label and receipt formats, change settings, update wireless security and install new software from their desktops without touching the printer.

Security

Kiosk design must incorporate both physical and data security. Kiosk components and supplies can be secured through locking cabinets and the construction of the kiosk itself. Data security can be more of a challenge. Kiosks that accept payments or collect customer information must meet Payment Card Industry (PCI) standards and other relevant requirements. Because kiosks tend to be installed at new points of service, they are often outside established networks and IT systems, where enterprise security is strongest. Kiosk deployment may require revisions to the IT architecture, and kiosks themselves should support the enterprise's standard and preferred security protocols, including those for wireless networking.

HARDWARE CONSIDERATIONS
OFF-THE-SHELF SOLUTIONS

Ideal for organizations who need to deploy their kiosks quickly, an off-the-shelf, all-in-one kiosk hardware solution is an affordable and less-complicated alternative to customized kiosks. It consists of a standardized, durable metal housing that accommodates a printer, a roll of paper, and a compact kiosk computer. All that is needed for a complete solution is software. Installation is flexible, because an off-the-shelf kiosk solution does not require a customized free-standing enclosure. It is easily mounted on a wall or pole, anywhere in the facility. The lockable enclosure securely contains the printer and paper roll, while opening up completely to allow easy access for servicing the printer or changing the media. The small size does not require a customized free-standing enclosure that takes up valuable floor space. Ideal for tough retail environments, its low cost results in rapid return on investment, so even smaller retailers can enjoy the benefits of adding self-service kiosks to their stores.

CONCLUSION

Kiosks have been proven to be highly effective for improving customer satisfaction, creating competitive differentiation and reducing operating costs, but these benefits are not universally shared. To have a chance of being successful, kiosks must be highly reliable and easy to use. If these criteria are met, the degree of success depends on application design, kiosk placement, training and promotion, plus the quality of the customer-facing experience and internal kiosk components. How well these factors are understood and addressed goes a long way to kiosk success; a major study found performers in kiosk deployments improved customer satisfaction by an average of 88 percent, while the worst made no improvement. There were also major differences in customer conversion rates and labor cost reductions attributed to kiosk programs.

Zebra Technologies and its solution provider network help customers to develop kiosk solutions that meet their specific business goals and performance requirements. Zebra® printers are inside thousands of kiosks used worldwide for retail, hospitality, ticketing,

ordering and other applications. Zebra kiosk receipt and tickets printers are built for tough printing environments where reliability, durability, minimal maintenance and ease of use are critical.

A global leader respected for innovation and reliability, Zebra offers technologies that illuminate organizations' operational events involving their assets, people and transactions, allowing them to see opportunities to create new value. We call it the Visible Value Chain.

Zebra's extensive portfolio of marking and printing technologies, including barcode, RFID, GPS and sensoring, turns the physical into the digital to give operational events a virtual voice. This enables organizations to know in real-time the location, condition, timing and accuracy of the events occurring throughout their value chain. Once the events are seen, organizations can create new value from what is already there.

For more information about Zebra's solutions, visit www.zebra.com.
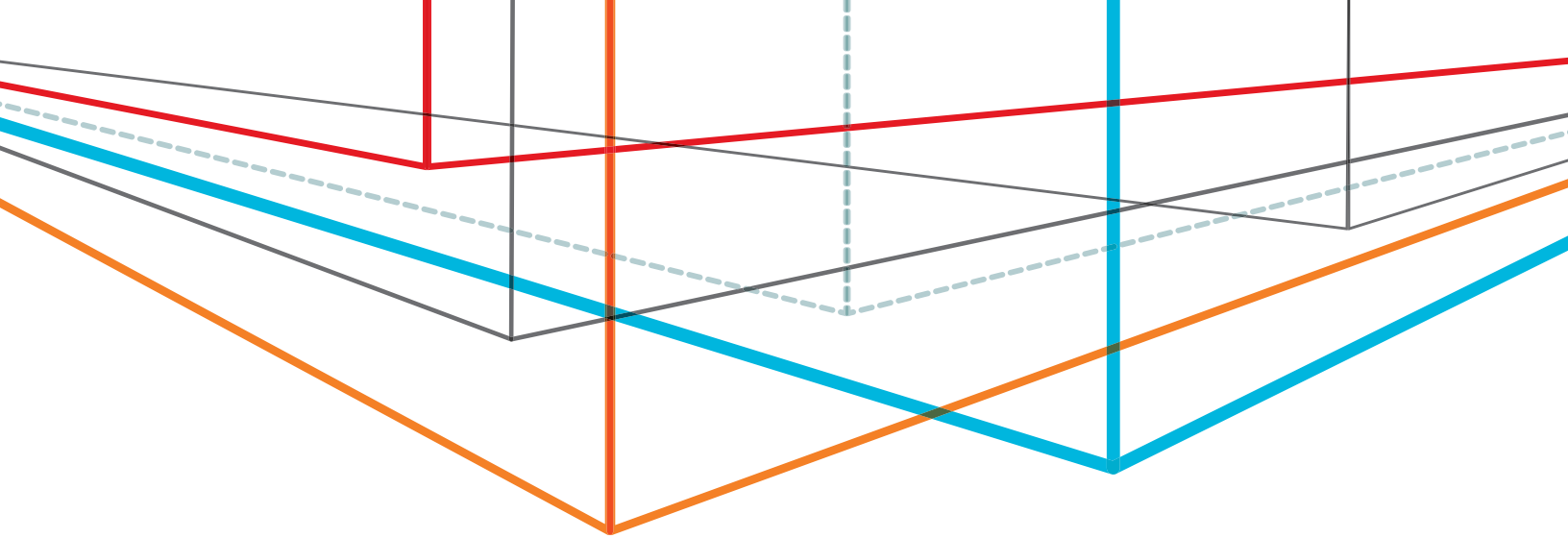
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