Kiosk Implementation

A Whitepaper by Worldlink Integration Group

Benefits and Uses for Various Industries

Digital kiosks have evolved from simple vending machines and automated tellers to interactive, complex pieces of technology that provide services and information. With audio-capable and touchscreen-enabled kiosks, customers can check out at the grocery store, access maps on college campuses, malls, businesses, or healthcare facilities customize products to order, and purchase food or beverages that can be modified to match their preferences. With kiosks, customers can receive a basic health check-up at their local drugstore and see current sales or product advertisements as their reading glasses receive a complimentary cleaning. Employees can clock-in and students can rent books, laptops, and other necessary materials at any hour.

The convenience, increased engagement, reduced operational costs, personalized experiences, and potential for additional profits makes digital kiosks a worthwhile investment. The possibilities are endless for retail, grocery, convenience stores, travel hubs, business enterprises, college campuses, and healthcare providers everywhere. However, with so many potential uses, the decision-making and implementation process can be daunting. Will I need touch-enabled screens for my kiosks? Is there a need for audio? How will I connect the system to my back-of-house operations and what software is necessary for my intended use? What impact will a tech malfunction have on my business and how will I resolve the problem? A plethora of concerns and considerations arise when deciding on implementing digital kiosks, and letting something slip through the cracks can interfere with the success of your chosen solution. The following whitepaper will define the most important aspects of your system to consider and provide pros and cons of various choices.

Types of Kiosks[1]

- Point-of-information kiosks (store or product details, employee training, way-finding, etc.)
- Product promotion kiosks (paid advertisements, sales, loyalty programs, etc.)
- Service or transaction kiosks (ATMs, health tests, product customization and ordering, etc.)
- Product-dispensing kiosks (food, beverage, electronics, movies, books, etc.)
- Internet Commerce kiosks (browse catalogues, customize products, place orders, etc.)

Considerations

- Hardware
    - Cases
    - Displays
    - Central Processing Units
    - Additional Peripherals

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[1] http://www.elotouch.com/Solutions/CaseStudies/kioskwp.asp

- Software
  - Operating System Software
  - Application Software
  - Management Software
- Connectivity
  - Internet
  - System Integration for Data Collection
  - Mobile Connection
- Installation, Maintenance, Updates
- Interaction
  - Interface design
  - Ease of access and use

Hardware
Cases

Most digital kiosks, regardless of their function, will need to be protected by a case, due to their frequent interaction with the general public. Kiosks located outdoors will have to withstand weather conditions and thus need additional protection from the environment.

Displays

The majority of kiosks will need a user interface by way of touchscreen. Deciding on the size and display quality will depend on the purpose of your kiosk. For instance, a way-finding kiosk at a mall or large campus will generally have greater dimensions with high-quality resolution, while a product-dispensing kiosk will likely need a smaller screen that can be effective in black-and-white imaging with a lower resolution. Screens may also need to be discrete in providing certain information to the user, like at an ATM or health assessment kiosk, which requires the screens to be crafted so that the information becomes unreadable from certain angles.

There are also some kiosks that do not require a touch-enabled display. These kiosks have functions that do not require interaction with the images, or the engagement is done through buttons, levers, or motion sensing technology. However, these kiosks will likely still need a digital display to provide information, share promotional content, or allow customers to view their progress.

Additional external signage, whether digital or static, is often included on the kiosks casing as a means for advertisements or promotional content. If you should choose to include a digital external display, the signage hardware will need to be connected to the internal CPU or to your back-of-house system for content creation and updates.

Central Processing Unit

The Central Processing Unit will most likely need to be an Industrial PC (IPC), especially if the kiosk will be stationed outdoors, as these computers are much more durable than commercial grade systems.[2] Processing speeds and available data memory will need to be tailored to the specific purpose of your digital kiosk. An in-house technician or professional IT partner can help to determine your individual needs and the potential for increased capacity in the future.

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[2] Rapid Rollout: http://goo.gl/C3VPP1

Additional Peripherals

Printers, credit card readers, scanners, bar code readers, and other components may be needed for your kiosk. Any kiosk where a service or product is rendered for a charge will need to be equipped with credit card readers, a printer for receipts, and slots for cash deposits and returns. Many self-service check-out kiosks are equipped with scanners and/or barcode readers, as well as scales for products charged by weight. Certain product-dispensing kiosks may require heating or refrigeration units or return slots for any rented material. Consider all possible peripherals that will not be embedded in your system and plan ahead for installation of the hardware as well as the potential need to add, change, or upgrade these components in the future.

Software

"Special software is needed to turn such a system into a true interactive kiosk. This software typically provides tamper-proofing capabilities, user interface customization, and remote management functionality."[3]

Three types:
1. Operating system (OS)
2. Application software
3. Management software

The operating system is responsible for integrating the hardware components and running any installed applications. Without the central operating system, there would be no communication between the CPU, displays, or peripherals, and none of the application or management software would sync to the system. Most kiosks can use commercial, off-the-shelf OS software and run internet-based or third-party software to meet kiosk-specific needs like remote control capabilities, though with the growing number of business owners implementing the technology, software created specifically for interactive kiosks is more readily available.

In addition to operating system software, the kiosks will need additional applications to run special operations or display custom-created platforms and content. These applications allow kiosks to serve the specific needs of your company. This type of software is custom-built and you will likely need to install several applications depending on the complexity of your system. It is important to ensure that all additional applications will integrate smoothly with the OS, hardware, and any other software installed on your CPU or shared wirelessly.

The final piece of software allows your team to manage the system to prevent tampering, mitigate risk of security breaches, collect relevant data on usage, and receive alerts on system malfunctions or when the kiosk is in need of re-stocking. Management software allows for remote access to the interactive kiosks, which is tremendously helpful when monitoring more than one kiosk at different locations. Creating a unique interface and updating content can also be handled by this type of software and allows marketing and executive teams to get the most out of their digital kiosk systems.

Connectivity

Many interactive kiosks will need an Internet connection, which can be established through Wi-Fi, Ethernet cables, or an outsourced cloud computing service. Another solution for interactive kiosk connectivity involves partnering with cellular companies to use their towers and

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[3] Wirespring: http://www.wirespring.com/pdf/kiosk_benefits_and_challenges.pdf

satellites for their networking needs. Kiosks can relay information and access the internet through mobile platforms. Often, management chooses this solution so that the sensitive data from point of sale systems, back of house operations, or other classified sources does not run on the same network as the kiosks, which are highly susceptible to hacking due to their use by the general public.

There is also the need to sync your system to your network to collect and analyze data, as well as receive alerts and updates on the functionality of your machine. This can be established through a direct download, Bluetooth, over a cloud platform, or through wireless syncing. Using a wireless sync or cloud platform is ideal as it allows you to receive and store data from multiple kiosks without being in direct contact with the system. Sharing created content and updating software can often be done over these wireless networks, but be sure that the connection is secure.

Management should also consider the need to connect kiosks to customer and/or employee mobile devices. This can allow for synchronization of way-finding kiosks, product location and discount information, or the receipt of a customer's desired content, such as health profile, order status, or apparel measurements. Enabling customers to input their email or mobile number into the kiosk is an option, but may deter patrons who do not feel comfortable providing their contact information. A simple solution such as Bluetooth Low Energy (BLE) or Near Field Communication (NFC) can allow a temporary sync to share the requested data.

Installation, Maintenance, Updates

Installation of less complex digital kiosks can often be done by your own team as they may only need to be plugged in and connected to your network via an Ethernet cable or wireless access code. However, more complex systems with various peripherals or a need for connection to a water supply, disposal system, or other external component will need the expertise of a professional technician. The process requires the connectivity of all hardware components, software installation, and network connectivity, as well as product-stocking for dispensing kiosks and material integration for certain service-providing systems.

Interactive kiosks generally require more maintenance than other technology that your business may have implemented in the past, as the systems are handled by the general public and are often exposed to the environment or situations where wear and tear occur more frequently. Also, many of the systems require re-stocking of materials for printing tickets or receipts, dispensing products, and providing change during a transaction. Other maintenance includes regularly cleaning screens, wiping down the casing, updating software, checking for loose parts or damage that could be potentially hazardous to the user, and replacing faulty components.

Updating hardware and software or adding components to your interactive kiosk is certain to be a necessity at some point. This is often best left to experts who can run tests, ensure integration with current systems, and identify any potential problems that may arise from installing and/or removing applications or peripherals. Software applications can be updated over a network-sharing system, but some may need to be updated or removed directly at the source. When these more complex and manual updates are required, an IT partner can save you time and mitigate the risk of system failure or malfunctions.

Interaction

Because your kiosks will likely be used by the general public or your employees, it is important to ensure they are setup for easy access and ease of use. The designated space you place your system and the design of the interface can make the difference between a dust-covered technology in the corner and a time-saving, customer-pleasing, money-making machine.

There are off-the-shelf kiosk solutions that can be purchased to setup your user interface. However, if you want a highly customized display, the design of the interface may need to be outsourced or created by your design and marketing teams. There will likely need to be an IT professional who can help with the integration of your design into your application and software components, which is where a third party provider can be beneficial.

It is also crucial to place your interactive kiosk in a space conducive to its purpose with ease of access for patrons and maintenance. Make sure that it will be visible without getting in the way of customer flow, while also taking into consideration the needs for power and network connection.

Final Thoughts

Kiosks are an amazing technology that can boost customer satisfaction, lead to a more efficient staff, reduce operational costs, and provide experiences that boost revenue, increase customer loyalty, and give you a leg-up on your competitors. However, without a proper strategy and an experienced, professional technical team, your investment can quickly become a sunk cost. Regardless of the role your interactive, digital kiosk will play for your business, a proper setup and regular maintenance are crucial to its success.

For more information and to find out how Worldlink Integration Group can help with your technology deployment needs, visit our website.

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