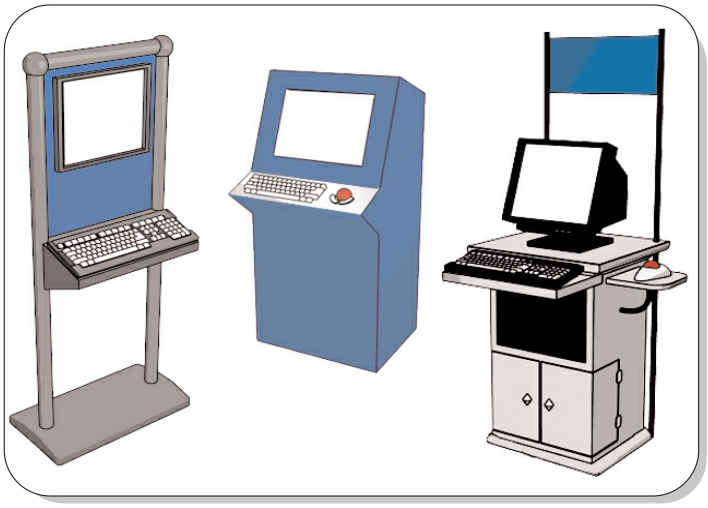
An Introduction to Interactive Kiosks

What is an Interactive Kiosk?



Interactive kiosks come in many shapes and sizes, and are often built specifically to withstand the rigors of public use.

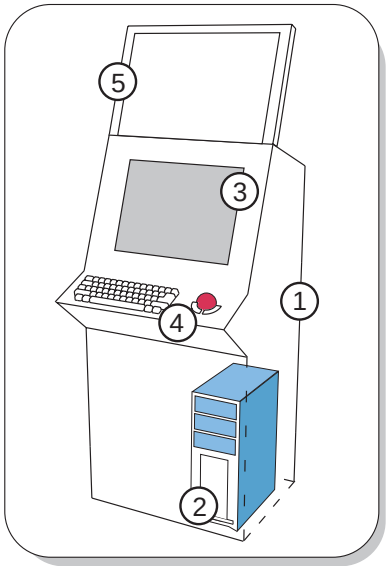
An interactive kiosk is any computer-like device deployed in a public venue to give people self-service access to products and services. Kiosks are typically placed in retail stores, airports, libraries, company cafeterias, and other places where personal computers are not available but self-service applications can provide some benefit. Like the PC at your home or office, a kiosk may provide internet access for web surfing and email, viewing of multimedia files, and access to various software applications. Unlike a typical PC, though, a kiosk typically performs only a few specific tasks, is designed to be used by many different people, and is often optimized for remote control and management. Popular examples of interactive kiosk applications include automated check-in systems in airports, interactive gift registries in retail stores, and pay-per-use computers in cybercafés.

Who Uses Kiosks?

Kiosks are most often deployed in situations where a problem can be solved by giving people access to self-service tools. For example, imagine a large shipping company with dozens of warehouses around the country, and hundreds of employees working in each. To find out about remaining vacation days, sick leave or pension information, each of these employees would have to contact a human resources representative, who would then have to call up the employee's file, and send the information back by fax or phone. This system is expensive, inefficient, and error-prone. A simple solution would be to use interactive kiosks placed on the warehouse floor to allow employees to look up answers to their own questions. Unlike additional support staff, kiosks provide immediate access to information, are available 24 hours a day, and don't get paid overtime.

The Anatomy of a Kiosk

Interactive kiosks come in many shapes and sizes, and are often custom-built for a specific application. Thus, the aforementioned kiosk placed on the warehouse floor might be encased in an industrial-strength steel shell, while a kiosk on a cosmetics counter displaying beauty tips might come in a svelte, fashionable case. In instances where ruggedness and appearance aren't important, kiosks may simply be regular PCs.



A typical kiosk configured with (1) cabinet, (2) CPU, (3) display, (4) peripherals, and (5) additional signage area.

Regardless of how they look, kiosks tend to have several features in common. Most readily apparent is the cabinet, the shell which houses the kiosk's innards. The cabinet holds a CPU, display, and any peripherals that the kiosk might need to do its job.

The CPU, or central processing unit, is the computer that runs the kiosk application. In most cases, it is simply a regular personal computer bought from a major manufacturer (e.g. Dell or IBM), or made with off-the-shelf parts. It contains the processor, RAM, hard disk, and other components found in the average PC.

The display presents the kiosk application to the user. Often, it is simply a computer monitor, television, or flat-panel screen connected to the CPU. However, more exotic displays like large-format plasma screens are becoming increasingly popular in kiosk applications for consumer marketing and advertising.

Kiosks often contain additional peripheral devices to provide increased functionality. For example, a library self-checkout kiosk might have a barcode reader for scanning library books and cards, while a movie ticket kiosk might have a printer and credit card reader for making transactions and printing tickets. In addition, special input devices like touchscreens and industrial trackballs are often used to make the kiosk as durable and easy-to-use as possible.

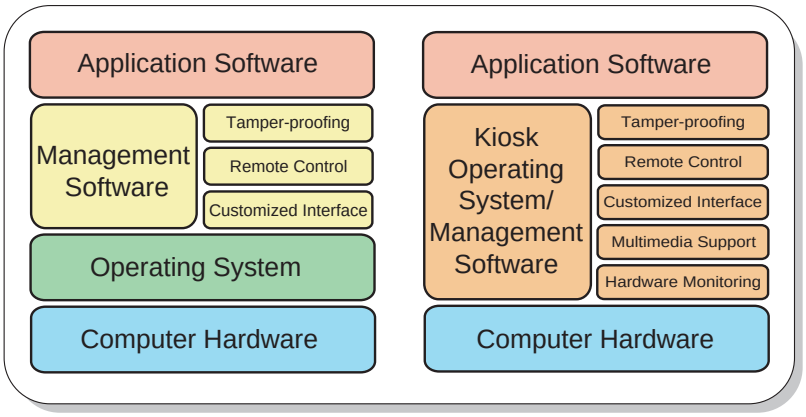
A fully-assembled kiosk with cabinet, CPU, display and peripherals is still little more than a glorified PC. Special software is needed to turn such a system into a fully-qualified interactive kiosk. This software typically provides tamper-proofing capabilities, user interface customization, and remote management functions.

Kiosk Software

There are three categories of software that run on interactive kiosks: operating system (OS) software, application software, and management software.

Operating System Software

Like your desktop PC, an interactive kiosk must have an operating system, which is a basic set of tools that allows a computer to identify its hardware and run its applications. In many cases, kiosk owners simply run a desktop OS like Microsoft Windows, and use 3rd party software to cover up any holes and add in kiosk-specific features, such as tamper-proofing and remote control. Recently, though, operating systems designed solely to run interactive kiosks have been built and deployed by several companies. WireSpring's FireCast OS is one such example of a "true" interactive kiosk OS.



Kiosks utilizing a standard desktop operating system (left) require an additional layer of software to provide functionality such as remote monitoring and tamper-proofing. Those taking advantage of a kiosk operating system (right) use built-in functions to handle these and other tasks.

Application Software

Kiosk software applications come in many varieties, and are often custom-tailored for each kiosk project. In some cases, a kiosk owner may simply modify an existing software product to make it sufficient for public use. But while a kiosk used for public web browsing might simply run a regular web browser customized with special buttons and images, more sophisticated kiosk applications are typically written from scratch, and are purpose-built to handle the rigors of public use. For example, many music

retailers allow customers to "browse" their inventory via special kiosks that play music clips from a catalog of CDs. The software that plays the music, brings up an image of the album cover, and provides information about the musician is a custom kiosk application. All of the other functions typically found in a personal computer are hidden, as are any unnecessary buttons and windows. Another popular application is the movie ticketing kiosk mentioned earlier. Instead of waiting in line at the theater, a customer can simply go to a kiosk, insert his credit card, select the name of the movie and showtime from a list, and have tickets printed instantly.

Kiosk Management Software

Kiosk management software is responsible for a number of important tasks. These can be divided into security tasks, application tasks and management tasks.

Security Tasks

First and foremost, kiosk software such as WireSpring's FireCast suite is used to provide a secure interface for public-facing kiosks. In many cases, kiosks are placed in environments where vandals might try to electronically attack and deface them, such as by pressing Control-Alt-Delete on the keyboard. As a first line of defense, software like FireCast OS will "lock down" the computer, making it inaccessible to intruders.

Application Tasks

FireCast and other kiosk packages are also responsible for the look-and-feel of the kiosk's application. Many kiosk software packages can be used to create a customized user interface with attractive branding, graphics, buttons, and icons. Advanced management packages, like WireSpring's ClientCenter, also let the kiosk owner create customized screensavers which utilize full-motion video and animation to attract customers to the kiosk when it is not in use.

Management Tasks

Because kiosks are typically deployed at multiple locations without on-site technical support, remote management has become an essential part of many kiosk deployments. Without it, a crashed kiosk displaying the "Blue Screen of Death" will remain unusable until a technician or trained employee arrives to reset the machine. A remote management package, however, enables administrators to troubleshoot their kiosks remotely, dramatically reducing annoying crashes and costly on-site service visits. With the ability to change settings and update software remotely, kiosk owners can apply the latest content, security patches and antivirus software to their kiosks without ever making a service call.

For More Information

If you need help planning your next kiosk project, or if you would like more information about FireCast, WireSpring's advanced, Linux-based kiosk operating system, contact us at:

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