AXIOMTEK

Redefining Consumer Experience
Smart Self-Service Kiosk for the Coffeehouse

Digitized Consumer Experience

New technologies are sweeping the retail industry, revolutionizing not just the way products are advertised and sold but also how consumers shop and enjoy services. This trend has led to a rising demand for intelligent digital signage and interactive devices, now widely adopted as an integral part of the retail store infrastructure to make modern stores smarter, more attractive, and more enjoyable. By Bringing together automation, information technology (IT) and artificial intelligence (AI) to the store front, these smart systems not only help retailers reduce costs and streamline operations, but more importantly enable them to create a pleasant shopping environment with greater consumer experience – an essential factor in earning long-term clientele loyalty.

Self-Service Kiosks – the Focus of Retail Innovation

Self-service kiosks have been receiving increased popularity in a variety of retail locations, spanning from fast food and quick service restaurants (QSR) to grocery chains, convenience stores and shopping malls. A computerized booth combining specialized hardware and software components as well as an interactive touchscreen HMI (human machine interface), the self-service kiosk displays merchandise information via eye-catching images and enables self-serve ordering and transaction processes at the point-of-sale (POS). While offering customers the convenience of making purchases through touch screens, self-service kiosks also create alternate channels for store owners to grow their business.

More shopping; less waiting. When customers order and pay by kiosk instead of standing in lines waiting for a cashier to serve, considerable wait times can be eliminated to amplify service speed. Interactive kiosks also give customers instant access to product lookup, catalogs and service information. Reduction in wait times creates a strong incentive for customers to stay longer and shop more.

Marketing with imagery and interaction. Interactive kiosks are effective promotional tools because of their ability to present merchandise information using dynamic multimedia. Kiosk systems with Internet connection support can load fresh ads quickly and remotely, which is ideal for broadcasting time-sensitive product promotions, sale items and special offers. Meanwhile, the use of self-service kiosks via interactive screens engages customers in a deeper communication with services and products, thus enhancing customers' sense of investment to make them more likely to make a purchase.

Contactless service. The rapidly-spreading coronavirus pandemic has an enormous impact on dine-out habits. While the spread of the disease has severely hit traditional restaurants with a sharp decline in the number of customers, heightened fears over the transmission of the virus are likely to benefit fast food and QSR establishments. In addition to providing alternative takeaway and delivery services, fast food and café chains are encouraging customers to use their self-order kiosks as part of the preventative measures to minimize chances of infection through person-to-person interaction, a situation expected to further drive the expansion of the self-service kiosk market.

Saving costs. Adding self-service kiosks to the store floor helps reduce the workforce assigned to repetitive, less-skilled work, meaning more employees can be contributing to mission-critical tasks to generate more values and improve customer service quality.

Consumer behavior analysis. A kiosk system with data processing capabilities can collect valuable information from the customers who use it. Kiosks integrating AI technologies are even able to identify shoppers' demographical characteristics or buying behavior and display the products that meet the interests of a particular audience, providing an effective way for retailers to reach out for target customers.

Axiomtek Delivers Tailor-Made Self-Service Kiosk Solutions

Axiomtek has earned its reputation as a total retail solution provider that takes on projects with complex customization and integration challenges. It offers solutions and services adaptable to a variety of use cases in a highly diversifying retail market, delivering all-in-one self-service kiosk systems that incorporate state-of-the-art technologies with lasting values.

100% customizable design solution. With core industrial design expertise, Axiomtek focuses on providing retail kiosk solutions tailored to the unique needs of specific retail store layouts and locations. Axiomtek's design team takes the ideas from customers about how they want their kiosk systems to look and work, including preferable colors, dimensions, physical appearance, etc., and then designs and builds kiosks that pull all these elements together nicely to answer their expectations.

All-in-one system integration. Axiomtek's one-stop system integration services provide fully integrated solutions for a wide range of retail applications, developing kiosk platforms that combine innovative hardware and software components to help store owners stay competitive. With specialized smart modules and peripheral interface boards (PIB) embedded inside, Axiomtek's self-service kiosks not only deliver high-speed compute performance and connectivity, but are readily scalable to add functions necessary to meet future requests, supporting broad interoperability with POS peripherals and devices such as cameras, barcode scanners, RFID readers, thermal printers, among others. The implementation of Remote Device Management (RDM) technology into the kiosks also enables remote communications, manageability, maintenance and protection of all kiosk systems, providing an efficient platform for retailers to prevent downtime and save operative costs.

Future-proof product modularization. Axiomtek's self-service kiosks are known for their flexibility options thanks to their modular and slot-in form factor design. It allows features to be arranged depending on customer-specific requirements or use scenarios, meanwhile making parts easy to install, service, remove or upgrade. Modularization also increases future-proof scalability of the kiosk to include new technologies. A lower TCO (total cost of ownership) can therefore be achieved.

Application Case: All-in-One Smart Self-Service Kiosk for the Coffeehouse

Challenges

The customer, a multinational coffeehouse chain, was looking for a 32" self-service kiosk to be integrated into its checkout system. The self-service kiosk was required to feature a wide array of POS terminal functions as well as anti-collision design, and had to support easy assembly and deployment to be able to fit into stores with different layouts.

Main Requirements

- Anti-collision design
- Easy maintenance, repair and sanitization
- Supports peripheral devices including an EMV chip card reader, a QR code scanner & thermal receipt printer
- Tray & tong return bin design
- Supports customer's camera reading technology

Axiomtek's solution

Axiomtek has built a 100% custom-made self-checkout kiosk designed with multi-use functionality to suit the customer's needs.

Modular, integrated all-in-one design. This multifunctional kiosk adopts a sleek, modularized design, with extended interoperability to facilitate the addition and upgrade of multiple functions. The checkout peripherals integrated into the kiosk system include an EMV card reader, a QR code scanner, a thermal receipt printer, plus a smart camera for processing merchandise images. The lower part of the kiosk contains a hidden drawer compartment, with individual spaces to accommodate peripheral equipment in a neatly organized manner, allowing for fast and easy assembly, maintenance and part replacement of all devices incorporated into the kiosk. The kiosk also makes full use of its physical design for multifunctional purposes, with areas available for mounting bag hooks or paper bag holders.

Fabulous usability & intuitive HMI. The self-checkout kiosk runs on an Intel® Core™ i5-7500T processor and features a 31.5-inch LCD PCT touchscreen, with an intuitive HMI that delivers remarkable user experience to appeal to customers – a big plus to increase the store's sales numbers. It also comes with a return bin where customers can return trays and tongs after completing the purchase. Both the return bin and the main body of the kiosk have wheels, making it easy for staff to move the kiosk and collect used trays and tongs for cleaning and sanitization.
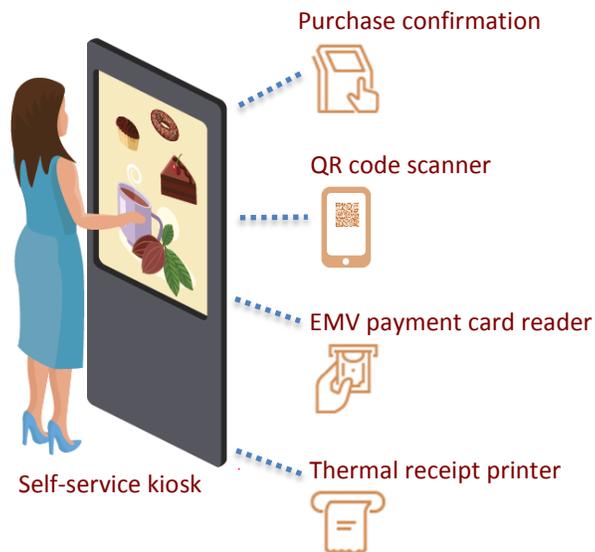
Feature highlights

- Intel® Core™ i5-7500T 2.7GHz with up to 3.30GHz 6M cache
- 31.5" LCD PCT touchscreen
- Smart camera reading station deployed for purchase confirmation
- Type 304 stainless steel material for bread tray reading area
- Return bin design for collecting trays and tongs
- Equipped with wheels to make the kiosk easy to move
- Multi-functional space for placing paper bags

How it operates

The self-service kiosk integrates an AI smart camera to accelerate checkout services and avoid human errors, allowing customers to enjoy rapid checkout by making purchases with speed, convenience and simplicity:

1. The smart camera captures the purchased item and displays the image of the item on the touchscreen.

2. Once the customer confirms the purchase, the kiosk screen shows the payment information including the number of items to purchase and the total amount to pay.

3. Via the touchscreen, the customer proceeds to select how they wish to pay. They can choose to pay directly at the kiosk either using an EMV credit card or by scanning the QR code on a payment-enabled phone, or print the receipt from the kiosk and then pay at the cash register.

Purchase confirmation

QR code scanner

EMV payment card reader

Self-service kiosk

Thermal receipt printer

(Illustration of the smart self-service kiosk with self-checkout peripherals)

About Axiomtek Co., Ltd.

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively-designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value and the expertise our customers need.

Axiomtek is a Member of the Intel IoT® Solutions Alliance. A global ecosystem of more than 800 industry leaders, the Alliance offers its Members unique access to Intel technology, expertise, and go-to-market support— accelerating deployment of best-in-class solutions.

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