(intel®)

Kodisoft develops innovative, interactive smart tables.

Intel® NUC
Intel® Core™ i7 Processor
Intel® Edison Platform
Internet of Things

Kodisoft specializes in developing innovative technologies that disrupt established modes of operation. After years of extensive research into the restaurant and catering industries, Kodisoft brought to market its Interactive Restaurant Technology* (IRT)* Based on the Intel® NUC platform powered by 5th generation Intel® Core™ i7 processors, together with Intel® Edison boards, IRT is transforming the dining out experience.

Challenges

- **Restaurant innovation.** Kodisoft wanted to disrupt accepted modes of operation in the restaurant business by bringing to market its IRT

- **Technology choice.** To do this, it needed a compact, high-performance and low-power computing system on which to base its technology

Solutions

- **All-in-one computing.** Kodisoft chose the Intel NUC platform powered by the 5th generation Intel Core i7 processor to power its smart tables

- **High-performance analytics.** Kodisoft uses the Intel Edison platform to process the data from the touch sensors in the ultra-HD-resolution tabletop at a frequency of 410 Hz

Impact

- **Transforming dining.** IRT presents restaurateurs with the opportunity to make their establishments more attractive, more interesting and more hi-tech

- **Healthy profit.** On average and according to internal assessments, restaurants using IRT have seen sales rise by 32 percent

- **New advertising channel.** Restaurants that have already deployed IRT are able to generate completely new income, up to 52 percent of their turnover, from advertisers

With IRT, sales rise an average of 32 percent

"We were looking for an all-in-one solution that could provide both core and graphic processing with low power consumption. We tried out many different options from different vendors. But for our application, high processing needs and to support ultra-HD resolution, we found Intel® NUCs powered by 5th generation Intel® Core™ i7 processors, together with the Intel® Edison platform, offered the preferred solution."

– Dmytro Kostyk, Founder, Kodisoft

A taste of dining to come

Imagine you're in your favorite restaurant and you're hungry. You no longer need to wait for the waiter to come over to dish out the menu or take your order. Your table is all you need. But it's no ordinary table. It's interactive and brimming with information and great suggestions. In one touch, you can browse the menu, see a photograph of any dish and browse through its ingredients. With one more touch, you can order it.

Waiting for your food to arrive is also transformed. You can play games on your tabletop, browse the news and even get acquainted with your fellow diners through interactive applications. On a first date? No problem. You can change the mood of your table at the touch of a button. And, if you're feeling really bold, you can even change the mood of the table next to you from romantic to disco (restaurant permitting).

This innovative Interactive Restaurant Technology (IRT) is the brainchild of Ukrainian IT company Kodisoft. At its heart lies Intel® processor technology.

A long history of innovation

Kodisoft's history can be traced back as far as 2001 when founder Dmytro Kostyk wrote a bookkeeping program for a TV and radio workshop in his hometown of Stakhanov, Ukraine. Since then, the company has been involved in a wide range of projects—from restoring the electronics in machines that apply portraits to marble to restoring Stakhanov's clock tower—before finally taking shape as a large outsourcing company.

Not content with a future in outsourcing, Kostyk radically overhauled the company in 2005, carving out a niche developing innovative technology for the marketing and advertising market segments. This included a device for Bluetooth marketing, allowing businesses to reach potential customers directly from their mobile phones, and an interactive instrument for emotional advertising that made it possible to capture and record the movements of consumers using sensors. After three years of research into the restaurant and catering industries, Kodisoft hit on the idea for IRT, starting with the development of interactive tables.

Kostyk explains: "At Kodisoft, we don't just replicate existing technologies. We seek to develop brand-new solutions that disrupt established and accepted modes of operation. We spend time researching how businesses operate— whether that's advertising companies or more recently restaurants and cafes— and develop a new approach for how these businesses should operate and what the customer experience should be. Rather than asking what we could do with a smart table, we thought about what we could do to transform the restaurant industry."

All-round benefits of IRT

"Every year, dozens of new restaurants and cafes open. But over a third of them fail within the first year," says Kostyk. "Today, there is a multitude of restaurants and the customer is spoiled for choice. The restaurant business is not just about serving food; it's about creating an atmosphere where the customer can have a good time, socialize and learn something new. When customers are used to being online and using touchscreens, why do restaurants still offer a

traditional and boring low-tech experience? IRT presents restaurateurs with the opportunity to make their establishments more attractive, more interesting and more hi-tech."

Restaurant owners can benefit from greater profit thanks to IRT. Instant orders that go directly to the kitchen reduce time spent on each order, increasing customer flow. The unique format attracts new customers to the restaurant and increases word-of-mouth advertising. Printed menus and other promotional presentation materials are no longer needed, reducing marketing expenses. The kitchen can react quickly to promote certain dishes based on factors like weather or ingredients that may be coming to end of life, thus reducing waste. If they are open to the idea, restaurateurs can further increase revenue by opening up the tabletops to advertisers - something Kostyk refers to as the equivalent of making "new money from air."

Besides enjoying a unique restaurant experience, customers benefit from increased information—for example, details of ingredients and calorie count plus recommendations for accompanying drinks and side orders. They can play games and watch videos as they wait for their food, change the atmosphere to suit their mood and even upload photos from the restaurant direct to their social media accounts or book their taxi home – all from the comfort of their dining table.

The key ingredient: Intel

Kodisoft's IRT offers restaurant owners the world's first ultra-HD interactive tabletop with unlimited multitouch, meaning all diners at the table can interact with its features at the same time. Additional gesture support also allows visitors to interact with the table from up to a distance of 8cm without even touching it. Toughened 8mm of safety glass ensures durability and anodized aluminum and stainless steel provide a sleek, stylish design.

- **Additional features include:**
  – Built-in, contactless payment technology
  – Near field communications (NFC), mobile apps or QR codes for easy access to social media accounts or personalized discounts
  – A built-in camera
  – Face and hand tracking using Intel® RealSense

At the heart of the interactive table lies Intel processor technology. Kostyk explains: "We were looking for an all-in-one solution that could provide both core and graphic processing with low power consumption. We tried out many different options from different vendors. But for our application, high processing needs and need to support ultra HD resolution, we found the Intel NUC powered by the 5th generation Intel Core i7 processor, together with the Intel Edison platform, offered the preferred solution.

The Intel NUC is a compact, energy-efficient, fully functioning, high-performance PC. Its small form factor makes it the ideal computing solution for tight spaces such as digital signage solutions, home theater systems and, of course, interactive smart tables.

The Intel Edison platform is a fully open-source hardware and software development environment that enables start-ups and makers to quickly and simply bring Internet of Things (IoT) products to market. It contains a high-performance, dual-core CPU and a single-core microcontroller to support complex data collection in a low-power package. Integrated Wi-Fi, Bluetooth Low-Energy* (LE*), memory, and storage simplify configuration and increase scalability.

Kodisoft is using the Intel Edison platform to process the data from the touch sensor. "It is capable of handling more than 250 concurrent touches at a frequency of 410 Hz," explains Kostyk. "From the moment a person touches the sensor to the moment the data is delivered represents just 2.4 milliseconds."

The sustainability of the Intel products was also a key decision factor for Kodisoft. "With Intel, you know the processors will always be available when you need them and in the quantity you need them. We know our manufacturing process will not be held up. Intel was also able to offer great technical support and was one of the first on the market to support 4K resolution, enabling us to go from idea through to prototyping and final development in a relatively short timeframe."

In the near future, Kodisoft plans to take advantage of the remote management capabilities of Intel® vPro™ technology.

Intel® Active Management Technology (Intel® AMT), a component of Intel vPro technology, provides remote management over wired or wireless networks across devices irrespective of power or operating system state. IT administrators can patch, repair or upgrade applications and operating systems as well as carry out inventories. This is something Kostyk describes as being "very useful as Kodisoft rolls out to more sites."

IRT in action

The first restaurant featuring IRT, Oshi Innovations, was opened in Limassol, Cyprus at the end of 2012. The project turned out to be so successful that the Kodisoft IRT solution delivered a return on investment of EUR 641,000 (USD 720,000) in just six months.

In August 2013 a second new restaurant, Ebony Interactive, opened in Dubai, UAE, using a new version of the software, followed by a third new restaurant opening, iCafe, in Abu-Dhabi, UAE. The restaurant in Dubai realized a return on its investment of EUR 863,000 (USD 970,000) in just eleven months.

On average, restaurants using IRT have seen a sales rise by 32 percent. Kodisoft sells these solutions direct to the restaurant owners as well as through channel partners.

What's next for IRT?

Kodisoft plans to open 15 more restaurants over the coming year in Singapore, Spain, Canada and the U.S. It also plans to open a second production line in Kiev, Ukraine, capable of building up to 200 tables per month.

The next step is to develop more intelligent IRT software that can improve monetization for restaurant owners and deliver an enhanced, more emotional experience to diners. For example, a recent Kodisoft research project revealed some fascinating insight into consumer behavior. After installing a video camera at the door of a well-known coffee shop, Kodisoft discovered that if a man over 45 years old ordered a decaf coffee, he was 86 percent more likely than the average customer to order a piece of carrot cake. The coffee shop in question was completely unaware of this detail. Using machine-learning software, Kodisoft plans to capture this sort of data in its future iterations of IRT and turn it into meaningful insights for restaurant owners. The capacity of this sort of analytics to tailor promotions and further increase sales is huge.

Ultimately, the company would like to see its IRT franchised. The format is not just limited to restaurants; it can also improve the customer experience at coffee shops and nightclubs, among others.

Kodisoft is also planning to designate the IRT as a separate company, for which an initial public offering (IPO) is planned.

Customer spotlight

Founded in 2002, Kodisoft develops specialized, high-quality hardware and software solutions using progressive technologies. It strives to create solutions for developers to pick up and run with, without having to read through a long list of instructions. Besides Interactive Restaurant Technology (IRT), its key technology developments to date include, among others, mCloud*, a single cloud-based business environment that delivers every system and program a business needs to operate, and Kolight*, an interactive, hi-tech system for implementing "live" advertising including interactive floors, Bluetooth marketing and augmented reality.

Read more about Kodisoft and IRT

Find the solution that's right for your organization. Read more about **Intel's retail solutions for the Internet of Things**.

Watch this **video** to find out more about IRT in action.

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