Case Study: U-Hopper

High Accuracy Indoor Positioning (HAIP) for Retailer In-Store Analytics

U-Hopper (www.u-hopper.com) is a high-tech startup developing big data analytics solutions for the marketing industry. The company was founded in late 2010 as a spin-off of the CREATE-NET international research center and is based in Trento, Italy. The mission of U-Hopper is to build advanced data services able to improve marketing effectiveness by fully exploiting the potential of localization technologies, smartphones and social networks.

U-Hopper's Challenge

In the year 2012, U-Hopper was in the middle of designing and developing their in-store analytics platform called RetailerIN (www.retailerin.com). The platform tracks and analyses in real-time how customers move and interact with products in indoor spaces such as retail and grocery stores. For the platform to work properly, U-Hopper needed an indoor localization technology that would be highly accurate and reliable in tracking retail store customers throughout their entire shopping experience from entering the store to checking out. The localization system that U-Hopper was looking for needed to cover the whole area of a store while providing high-accuracy (in the order of 20cm) location information in real time. U-Hopper had previously experimented with other location tracking technologies (e.g. Wi-Fi localization), but none of them was able fulfill all of their requirements; they could not provide U-Hopper with the desired accuracy, reliability, and coverage to get accurate data for their analytics. Furthermore, U-Hopper experienced that those available technologies were not suitable for scalability and remote management, nor friendly to deploy and maintain throughout time.

The Solution

The solution for U-Hopper's problem was the Quuppa High Accuracy Indoor Positioning (HAIP) system. The technology provided U-Hopper with the real-time, high-accuracy, and reliable positioning that they required! With the help of Quuppa's HAIP technology, U-Hopper was able to successfully develop and launch their novel retailer analytics platform RetailerIN, powered by the cost-efficient, easy-to-deploy and maintain, and scalable tracking platform. The complete solution for U-Hopper consisted of HAIP tags and locators, HAIP positioning engine software, and tools for site planning, deployment, tracking and monitoring. "It was incredibly easy to start working with Quuppa, because their demo kit was ready-to-use and their collaboration and support was great." says Iacopo Carreras, the CEO of U-Hopper.


Quuppa's standard HAIP tag.

By first constructing a miniature retail setting with the HAIP system in U-Hopper offices and then extending it to the real environment, U-Hopper was able to design and develop their retailer analytics platform on top of Quuppa's technology before launching the product. The RetailerIN solution is now sold to store owners and chains around the world.

For now, the RetailerIN in-store analytics platform uses the 18mm x 18mm HAIP tags attached to shopping carts, baskets, trolley, as well as products. The Quuppa HAIP Locators mounted on the ceiling are used for multiple purposes and enable different use cases, depending on the system configuration: Quuppa Locators can track HAIP tags and SW modified Bluetooth 4.0 enabled devices, while offering Bluetooth 4.0 beaconing and iBeacon reference signals. The versatility of the technology solution and all-in-one characteristic gives U-Hopper the possibility to further develop the RetailerIN solution to give retail store owners possibilities well beyond analytics.

HAIP tags attached to shopping carts and baskets at a grocery store.

The data, gathered and analyzed by the RetailerIN platform, is used by store managers through an interactive dashboard with statistics and visual analytics. The RetailerIN analytics include such information as store heat maps, people counting, and dwell times. With the information, store managers can improve their store profitability by optimizing product placement and shelf space revenues, analyzing customer behavior, measuring effectiveness of different store layouts, sending highly targeted advertisements, and much more. Iacopo Carreras sees endless opportunities in the RetailerIN platform as almost any possible KPI that a store manager could be interested in, is possible to be calculated starting from Quuppa's HAIP system localization data. "The main value of the Quuppa system for the end customer is that you can track an incredible amount of KPIs" Carreras adds.
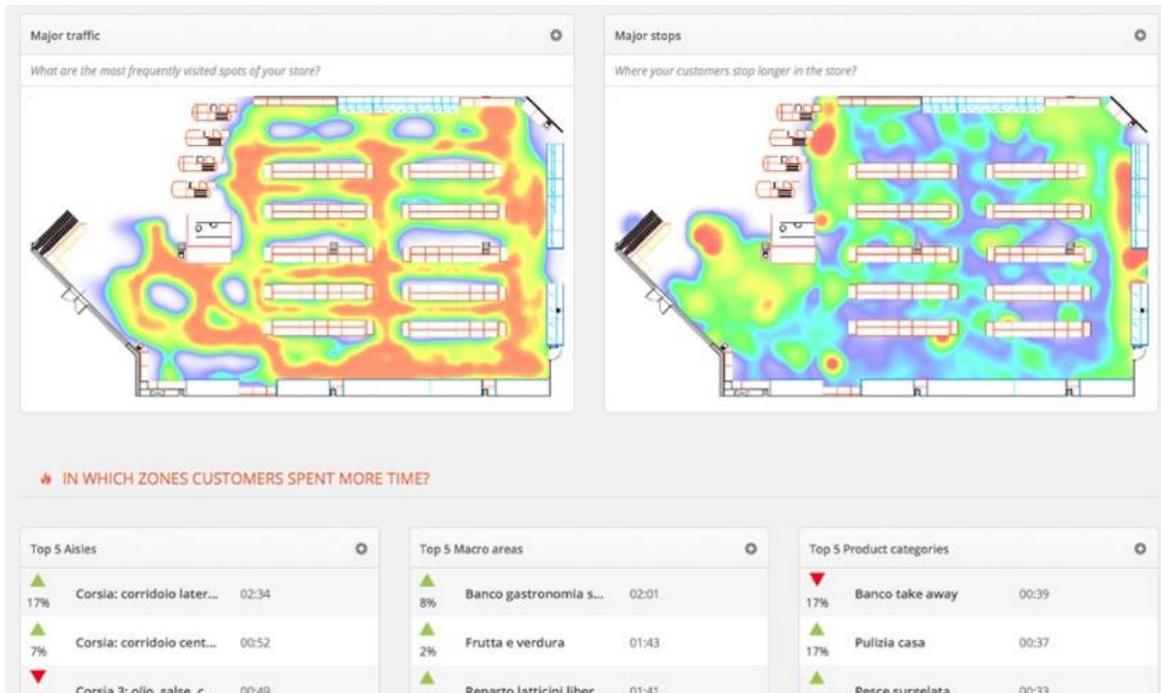
RetailerIN platform provides store owners with heat maps among other analytics.

The Future

U-Hopper looks forward for growing their business even further by adding other HAIP infrastructure supported solutions into their offering, in addition to the current RetailerIN platform. While U-Hopper's focus is still on retailer analytics, they are eager to expand into other vertical markets and indoor services as well. Location based services that U-Hopper is looking into are mobile applications, location-based content delivery, and indoor navigation. "One of the big benefits of Quuppa is the total cost of ownership of the infrastructure. You get one simple infrastructure that you can use in many, many purposes." Carreras notes.

To learn more about Quuppa's HAIP technology, other use cases, and what it can do for your business visit Quuppa.com or send email to info@quuppa.com.