

Digital Signage and Facial Detection

More Than Meets the Eye

By Rich Ventura



To overcome the challenges they face competing with e-commerce sites and other retailers, brick-and-mortar retailers are adopting many different approaches to personalize the shopping experience for their customers. Smart digital signage, which combines facial detection software and anonymous analytics, is a tool that enables retailers to engage customers and provide an extra personal touch.

Digital signs linked to cameras, sensors and anonymous analytics software can recognize certain details about a shopper and deliver content tailored to that person's age, gender, actions and likely preferences. A facial detection system also provides many benefits beyond presenting content. The anonymous data that the system gathers – combined with a retailer's other data – can provide retailers actionable information and a more holistic view of their customer base, which they can use to streamline and fine-tune floor layout, inventory, shelf displays, and other processes.

Let's talk privacy

Privacy concerns move front and center when discussing the topic of facial detection. That's understandable. No one wants to contemplate living in a Big Brother society that continuously tracks a person's location and activities.

In addressing privacy concerns, it's absolutely essential to understand the types of information that cameras linked to digital signs are actually gathering. These cameras are not capturing and storing images for the purpose of identifying specific individuals. That process is known as facial recognition, which is used for security purposes and at certain hospitality venues to spot celebrities and other VIPs. In sharp contrast, retail environments use facial detection systems that measure certain characteristics and using special algorithms are able to determine the age range and gender for the audience.

How it works

A facial detection system scans faces within the view of its cameras for basic attribution data. Its software uses algorithms to analyze this biometric (and other) data to determine, for example, that a person approaching a digital display is likely a 40- to 45-year old male or that there are a significant number of 25- to 30-year-old females among a crowd. Facial detection systems do not capture images or save personal information about the people they detect. These systems also are able to be used to measure dwell time, traffic patterns, and even facial expressions. Along with this data retailers are also able to input other data points that will help paint a picture of understanding about how customers engage with content presented on a display.

Once age, gender, and other data have been analyzed, the software can deliver an ad relevant to the shopper or shoppers. For example, the store may have a cosmetics advertiser interested in targeting 18- to 24-year-old females. When a shopper with that profile approaches a digital display, the software can deliver the cosmetic brand's ad to its targeted audience.

What is the gain?

Retailers can combine facial detection with analytics to learn more about their customers buying habits and which products or brands they should be offering. For example, if a store's digital displays present an ad for a new jacket to 100 women, ages 30 to 35, over the course of a weekend, the retailer can check its POS to see how many of those jackets were sold during the same time period. That data can be used to make an informed decision about whether to increase or decrease advertisements for the jacket, whether to target the ad toward a different demographic, or whether to change the ad's content.

In DOOH operators can use facial detection to target audiences for their advertisers. A company can gather data that shows a certain demographic, 40- to 45-year old males, for example, passes by the billboard every work day at a specific time. This enables companies to match advertisers to locations and time periods that are best suited for their brand messages.



What is the goal?

Facial detection systems can help retailers become more intelligent about who their shoppers are, at what times of the day they visit the store, and what kind of products they're buying. This knowledge will help them improve store layout, drive inventory decisions, and suggest changes in display content so it's more effective.

Facial detection allows retailers to deliver more and communicate a stronger, cleaner message to targeted audiences. By measuring how long a shopper spent looking at an endcap or product or engaging with signage, retailers can also tell whether content is working or not working.



A new way to obtain insights

Facial detection systems allow retailers to leverage their built-in advantage over e-commerce competitors – direct interactions with customers – and to distinguish themselves from other retailers by delivering highly relevant ads on digital displays aimed at finely tuned target audiences. In addition to giving shoppers a more personalized, memorable shopping experience and providing them incentives to make a purchase and return to the store, these systems allow retailers to assess customer response to new products and to gather anonymous data that helps them to better understand their customers and to adjust their sales approaches.

About the author:

Richard Ventura is the Vice President of Strategy for NEC Display Solutions of America's, overseeing all strategy related activities for the organization. He is focused on leading the development and communications of strategies aimed at evolving the business and driving it forward. Richard has spent 16 years within the NEC sales and marketing organizations helping numerous client and partner relationships flourish and spearheaded campaigns, which have elevated NEC's brand. He can be reached at rventura@necdisplay.com.