



SKOOKUM®

Let Beacons

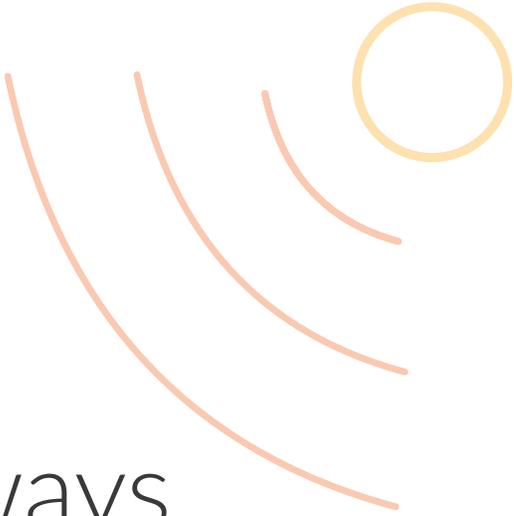
Be Your Guide

Creating Today's Optimal Customer Experience



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Welcome

to the Always On, Always Connected Age of 'I'

Less than 40 years after the cellphone was made available to consumers, it's now estimated that a vast majority of the planet owns one – and by 2020, an additional 1 billion people are expected to join the mobile movement.

Not surprisingly, this cultural phenomenon brings with it all sorts of exciting new opportunities for companies. However, it's simultaneously generating new consumer expectations within a fiercely competitive landscape that disrupts the way traditional organizations have functioned for decades. To keep up, today's companies must reinvent the way they conduct business – both internally and externally.

Now more than ever, consumers expect best-in-class digital experiences. The opportunity to marry personal experiences with exceptional and intuitive human-centered design is one that organizations cannot afford to overlook. It is no longer just nice to do; it's critical to success.

Today's customers have the upper hand and far more control over every aspect of the buying journey than ever before. So what does their ideal experience look like? In one survey of corporate executives, nearly every respondent agreed that modern consumers desire fast, efficient, cost-effective, and personalized experiences. However, this adds a deeper level of complexity to the customer experience equation.

How, then, do marketers meet these rising expectations? The good news is that technology exists that enables brands to employ contextual-based marketing to deliver relevant and personalized content directly to users and customers. One relatively recent and growing approach is through a proximity- and location-based technology called beacons.

Beacons have been described as the “missing piece” for organizations that want to interact with mobile customers in a far more personalized and meaningful way.

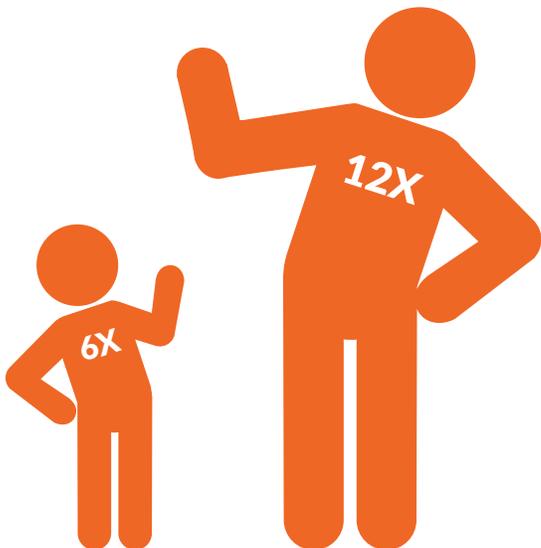
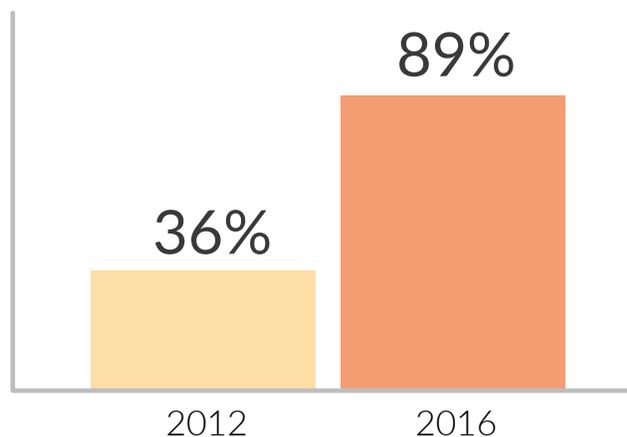
This paper will review beacon technology and explore how it's evolving the mobile movement and shaping the next generation of customer experience best practices.

Beacons make engagement completely effortless for the customer, facilitating a win-win scenario in which customers can choose to receive personalized content, promotions, and alerts that are relevant to them, and sellers can collect valuable behavioral data that can be used to shape future sales, marketing, and promotional strategies.

What makes this technology so interesting and unique is that with it, digital and marketing leaders can now merge and provide the best of both digital and physical worlds to create seamless, predictable, and engaging environments that increase sales and loyalty, among other brand metrics.

Consider These Stats:

According to [Gartner](#), 89 percent of companies identify "customer experience" as today's primary basis for competition, compared with just 36 percent four years ago.



According to [Temkin Group](#), customers are six times more likely to buy a product if a brand provides them with a positive emotional experience.

Further, they are 12 times more likely to recommend the brand to friends and five times more likely to forgive a mistake.



What's a Beacon?

Beacons are cost-effective, energy-efficient wireless transmitters that leverage Bluetooth Low Energy (BLE) technology to communicate with customers' mobile devices. Similar to GPS technology, the transmitters can detect a user's approximate location and then provide relevant, personalized content that relates to his or her whereabouts.

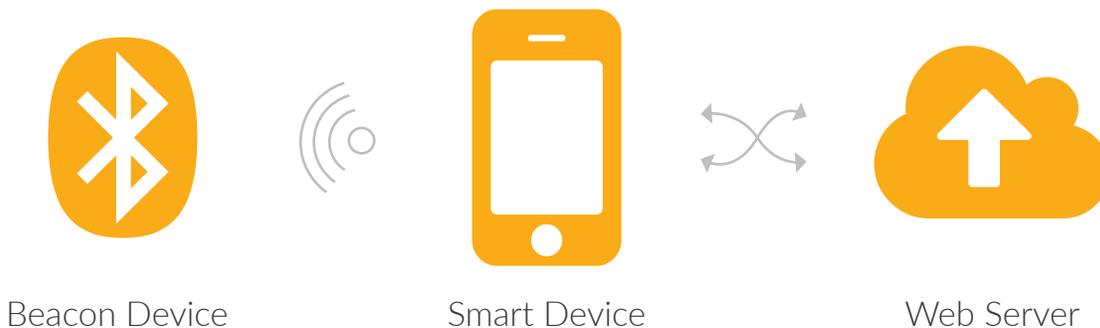
For example, if beacons are installed throughout a grocery store and a shopper is within range, the mobile app on the shopper's phone can listen for the beacon's signal. This, in turn, can trigger an action on the shopper's mobile phone, such as sending him coupons for preferential items within his immediate vicinity.

Beacons come in many different [shapes and sizes](#), as a large number of manufacturers are now producing them. They are unique in the way they provide a new channel

to the customer. Unlike other proximity technologies such as radio-frequency identification (RFID) or near-field communication (NFC), beacons have greater range (approximately 160 feet, compared with 4 inches for NFC). Additionally, with Bluetooth and location services turned on, beacons can trigger events on a user's mobile app to push content, including offers, location data, or personalized recommendations based on a customer's preferences or shopping history. Conversely, customers must initiate interaction with NFC.

While beacons do require an app, they can trigger activity on the phone even if the app isn't running – or even when the phone isn't connected to the internet. Apps can detect beacon signals and react automatically by sending push notifications, personalizing content, and capturing important behavior metrics at the same time.

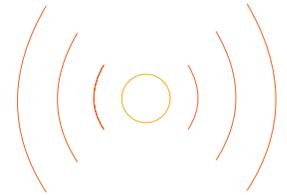
How Do Beacons Work?



Beacons help companies achieve their customer experience goals in three main ways:

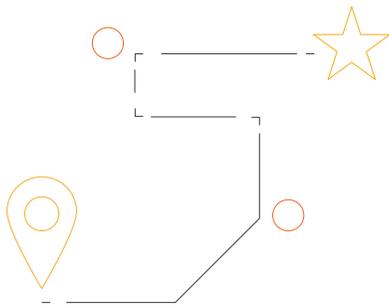
Proximity-Based Marketing

Beacons enable hyper-contextual communication, **allowing marketers to deliver the right message to the right person at the right time.** For example, a customer arrives at his hotel and is automatically checked in when he enters the lobby. Then, as he passes the bar, he receives a notification to stop in for a complimentary welcome drink. Keep in mind, though, that this is possible only if the customer has Bluetooth® turned on and has granted the company permission to send notifications.



Indoor Navigation

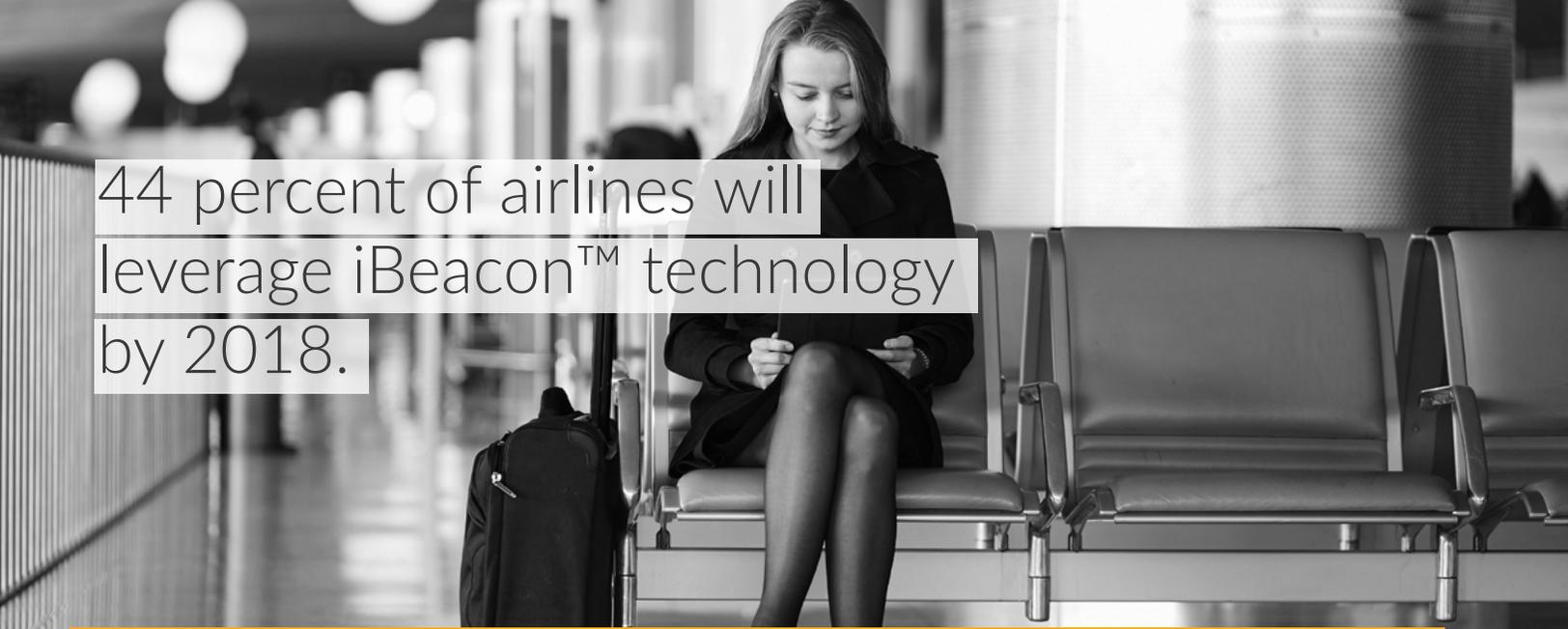
Beacons can be used to set up an indoor navigation system to **help customers maneuver through complex and expansive facilities and campuses.** Think along the lines of Google Maps for the indoors. The phone automatically identifies nearby beacons to approximate its location and steer users to their desired destinations. This capability is ideal for guiding users who need to reach specific locations in unfamiliar buildings, such as large trade shows, airports, and hospitals. **Additionally, it is helpful in guiding users through spaces that have multiple floors.**



Customer Insights

Beacons allow companies to **gather information about customer behavior** and buying preferences. Insights from big data can be used to optimize the customer journey and provide a completely tailored service experience. Imagine a scenario in which a loyal customer (a new mom, in this case) walks into a retail store, is greeted by name, and is offered a 10 percent discount on a certain brand's baby clothes – the product category she shops the most.





44 percent of airlines will leverage iBeacon™ technology by 2018.

Examples by Industry

Retail

- Notify shoppers of special promotions and discounts when they enter a certain department or stand near a particular shelf.
- Welcome loyal customers back to the store, and recommend new products on the basis of past buying behavior.
- Create visual heat maps for store managers to understand shopping patterns in order to optimize product placement.
- Reduce occurrences of “showrooming,” whereby a consumer visits a physical retail store to interact with a product yet purchases it online at a discount retailer.

Did you know?

According to Forrester, [82 percent](#) of customers make purchase decisions in-aisle, and Deloitte reports that [84 percent](#) of them engage with a mobile device while doing so.

Travel

- Provide keyless entry into hotel rooms.
- Notify pool swimmers and beachgoers when storms are nearby, and suggest alternate activities.
- Recommend restaurants in airport terminals, factoring in wait times and customer reviews.
- Provide valuable wayfinding in large airports or terminals and important flight information or gate changes.

Did you know?

According to aviation technology firm SITA, [44 percent](#) of airlines will leverage iBeacon technology by 2018.

The use of proximity-based in-store payments will grow 137 percent annually.



Examples by Industry

Healthcare

- Help patients and visitors navigate hospital buildings.
- Notify staff members of their daily duties when they arrive at work stations.
- Remind drugstore shoppers, when they walk past the pharmacy, to get their flu shots.

Did you know?

Thanks to a rise in [“bring your own device”](#) policies, ABI Research reports that beacons will [play a major role](#) in the healthcare industry by 2019.

Financial Services

- Add value to the in-branch experience; welcome new or existing customers.
- Remind customers in the waiting area to complete in-process applications.
- Notify bank personnel when high-value customers enter the branch.
- Inform customers of wait times for specific services and specialists.
- Offer cardless after-hours access to ATM lobbies.
- Partner with retailers and merchant clients to provide valuable solutions and offerings to encourage transactions, boost credit card usage, and build loyalty.

Did you know?

Over the next few years, Forrester predicts that the use of proximity-based in-store payments will grow [137 percent annually](#).

Misconceptions About Beacons

MYTH 1: ‘Beacon’ and ‘iBeacon’ are the same thing.

“Beacon” and “iBeacon” are terms often used interchangeably, though they are, in fact, two fundamentally different things. A beacon is the physical device, while iBeacon is a protocol developed by Apple® that enables beacons to perform certain functions.

Simply put, protocols are standards of Bluetooth Low Energy communication. And iBeacon is just one of several beacon protocols available on the market. Google created one in 2015 called Eddystone, and open-source options, such as Radius Networks’ AltBeacon, also exist.

MYTH 2: Beacons and phones have an open dialogue.

Beacons are not terminals of information that can respond to information from the phone. They aren’t even aware of devices other than themselves. There is no pairing and no exchange of data from the phone to the beacon. Instead, beacons constantly broadcast signals containing small amounts of data to nearby smartphones and tablets. Mobile apps listen for these signals, and once they receive them, they trigger an action on the device.

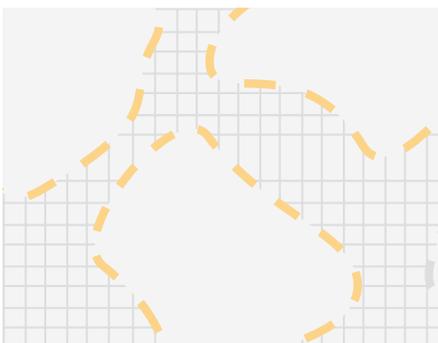
In other words, all the heavy lifting is done on the user’s phone. The core use case of a beacon is this: Have a phone do something when it enters an area. That’s it.

MYTH 3: Beacons have precise ranges.

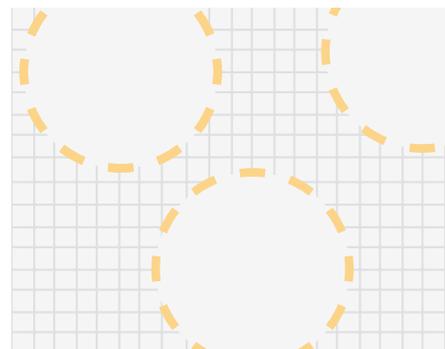
All sorts of environmental factors can affect or change the shape of a beacon’s range. For example, Apple’s documentation states that beacon accuracy “is heavily subject to variations in an RF environment.” Also, a beacon’s range isn’t a perfect sphere.

Beacons are built on Bluetooth Low Energy, which is subject to interference — particularly from water. Because 60 percent of the human body is water, crowded spaces can cause some variation in beacon ranges. Greater beacon density will provide smaller ranges and yield more accurate positioning. Further adjustments to signal strength or location can also change accuracy results.

A beacon’s range looks more like this:



Than this:





Beacons in Action

1

Charlotte Mecklenburg Library

How Beacons Helped Enable a Next-Generation Library Experience

The Charlotte Mecklenburg Library is one of America’s leading urban public libraries, serving a community of more than one million residents in Mecklenburg County, North Carolina. **Accessible and welcoming to all, the library celebrates the joy of reading**, fosters learning and growth, connects people to one another and the world, and inspires individuals to imagine what they can achieve.

Challenge: Since its inception more than a century ago, the Charlotte Mecklenburg Library has been committed to providing the public with a wealth of information and services.

With the advent of digital technology and the pervasiveness of smartphone use within the community it serves, the library saw an untapped opportunity to provide greater, more convenient access to information and services to mobile device users, including those who rely on smartphones as their only connection.

Solution: Working in collaboration, the Skookum team and Charlotte Mecklenburg Library developed and released a pilot mobile app for the iOS platform in less than four months. The app leverages iBeacon technology to provide a more engaging mobile experience while inside the library.

User benefits include:

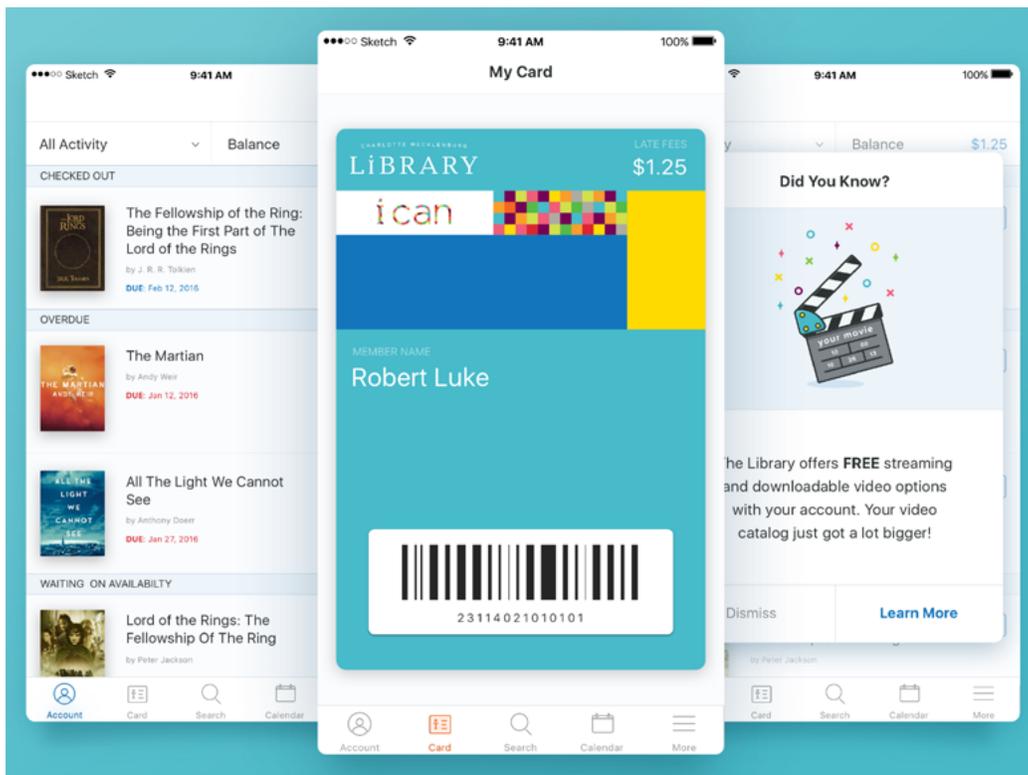
- The convenience of a digital library card and mobile access to the library’s catalog of books with the ability for users to not only search the catalog, but also quickly conduct account functions like placing and canceling holds and viewing checked-out materials directly in the app.
- Seamless, in-app access to digital library resources — e-books, audiobooks, and more — from digital library vendors like Overdrive and Hoopla.
- A mobile app user near one of the installed iBeacon devices in a library branch can receive personalized notifications to his mobile device. As app users enter and move about the branch, they’ll learn about resources, services, and programs that may be beneficial to their visit.

Beacons in Action

Impact

The Charlotte Mecklenburg Library mobile app extends and enhances the user's library visit experience. It also supports two of the library's biggest goals: increasing community awareness and engagement and innovating to support 21st-century access.

"We continue to improve the customer experience, making it easier for customers to find and use the content they want and need," said David Singleton, Director of Libraries. "With better technology integration, we're offering customers the ease and flexibility we know they seek. They can be free to learn and explore – no matter how they're interacting with their library."





Beacons in Action

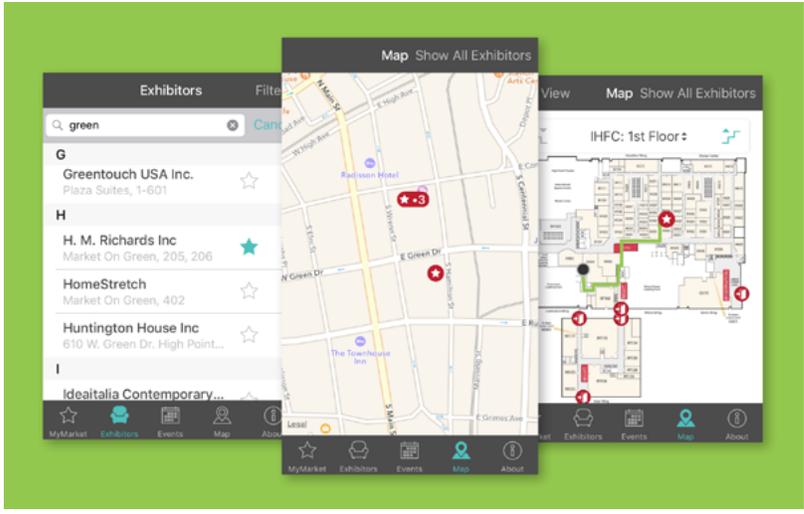
2

High Point Market

Beacons Guide Customers Through a Maze of Showrooms

High Point Market is the largest home furnishings trade show in the world. It has been in operation for more than a century and has grown significantly over that time. Today, the trade show inhabits some 180 buildings spread over 13 square blocks, totaling more than 11.5 million square feet of floor space.

Challenge: About 75,000 visitors from more than 100 countries attend High Point Market. Buyers typically have limited time to conduct business, and navigating the enormous multitenant buildings can be an overwhelming, time-consuming effort. Additionally, these buildings have been modified and expanded over the 100-year history of the market, and some now contain more than 400 exhibitors over multiple floors. Ultimately, this creates a major navigational challenge.



Solution: The trade show team saw an opportunity to use technology to dramatically improve its visitor experience while eliminating the need for costly (and sometimes inaccurate) printed materials. It also saw how it could better meet the needs of its growing demographic of younger interior design professionals by providing information through a mobile app.



Beacons in Action

In collaboration with Skookum’s team of technology professionals, High Point Market transformed its visitor experience by creating an intuitive mobile app and wayfinding solution. Using the power of iBeacon technology, the app makes navigating this massive “city of furniture” a breeze, providing users with paths to follow based on their preferences. The solution is simple to use, designed with the user in mind, and ultimately enables customers to save a lot of time to make the most of their visits.

User benefits include:

- A simplified, contemporary, and intuitive way to navigate the market.
- Increased value for High Point exhibitors, who can now be easily discovered and instantly located.
- A digital solution directly in line with visitor expectations and demographics to foster loyalty and return visits and to reduce the cost of buyer acquisition.
- A reduction in printed material costs and waste.

Impact

A dramatically improved experience for buyers, who can now instantly search for, find, and navigate to preferred vendors, all from the convenience of their mobile phones.

“High Point Market has grown organically since its inception in 1909, with more than 1,800 exhibitors now occupying 180 buildings,” Neil Marritt, the Vice President of High Point’s marketing agency, Emisare Inc., said. “The combination of an easy-to-use exhibitor and event search feature with on-the-ground wayfinding empowers buyers to target and navigate preferred shopping destinations with efficiency and speed.”

START

Ready to Get Started?

As illustrated by the previous examples, beacons can be a great way to **provide modern consumers with the personalized experiences they desire.**

However, beacons may not be the ideal solution for every scenario. For example, caution should be exercised in large, unmonitored spaces like public parks because beacons could likely be tampered with, fail to easily adhere to a surface and fall off, or even be carried off by animals and curious visitors. Further, while optimism and growth continues around the convenience of beacon-enabled mobile payments, coupon offerings and redemptions, and e-receipts, privacy and security concerns remain and must be carefully evaluated and addressed before embarking on a project of this nature.

Deciding to use beacons is only the first step; next is choosing which hardware vendor to partner with. Beacons can vary in price, capability, and quality. Some basic factors to think about include battery life, indoor and outdoor use, firmware customizability, and cost. Make sure to **do your research** to determine which qualities are most important in order to achieve successful implementation of your solution. At Skookum, we've had positive experiences working with and deploying **Kontakt** and **Estimote** beacons in the past.

Because beacons exist to provide contextual information to users in the real world, the devil is in the details.

Deploying and configuring them is a labor-intensive process involving a lot of trial-and-error testing. Expect to have your technical people on-site, as the real world is a much different place from a controlled environment like a lab or a developer's office. Factors such as a building's layout, material composition, and even heavy foot traffic can have an effect on a beacon's useful range. At Skookum, we generally schedule two weeks to get beacons really tuned in, making sure they've been placed in the correct location, they're advertising at the correct intervals, and they're broadcasting at the right power level.

We encourage clients to run a beta test to work out any remaining issues before launching to the public. After going live, it's important to have a plan for beacon management. Whether your deployment is 10 beacons or 1,000 beacons, you'll need to come up with a way to effectively monitor and manage them. This covers everything from being aware of a battery that needs replacing, a beacon that has disappeared, or on-the-fly functionality changes. Please note that some vendors provide a management portal for beacon monitoring (usually for a subscription fee), while others do not.

Get in Touch!

Although it's still somewhat nascent, beacon technology is arguably one of the most innovative customer engagement techniques available. With smartphone ownership becoming nearly universal, mobile technology has come to the forefront as one of the easiest and most compelling ways for organizations to connect with their customers on a more personal level.

Further, customers are more willing to provide their personal information if they think they're getting enough in return from a brand. This reciprocal relationship gives savvy organizations a new and exciting opportunity to deliver personalized, hyper-contextual, and relevant communication to consumers, leading to greater value and more visible return on investment for companies.

Beacons give organizations unprecedented opportunities to better understand their customers, making it easier for them to offer unique, world-class journeys to the customers they value.

Contact Skookum today to learn more about what beacons can do for your organization and customers!

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About Skookum

Skookum is a digital product development company with offices in Charlotte, North Carolina, and Denver, Colorado. Since 2005, our team of product, design, and technology professionals have worked in partnership with organizations that want to make their customer and employee experiences distinctly more meaningful, efficient, and enjoyable. This, in turn, drives business growth and sustainable competitive advantage.



SKOOKUM®