

Comparison iBeacon vs Smart Antenna

Introduction

Comparisons between two objects must be exercised within context. For example, no one would compare a car to a couch—there is very little in common. Yet, people will compare a Smart Antenna to iBeacon, a clear example of where there is little in common. The root cause is that the misinformation about iBeacons leads the public to believe it is some powerful technical device, when it is simply an electronic QR Code that requires an application instead of a camera to read it.

This listing addresses only the comparable points between the Smart Antenna and iBeacon. The list of abilities that the iBeacon system lacks compared to the Smart Antenna is separate. Note that the iBeacon is not a functional device without an application and infrastructure to support it, while the Smart Antenna is totally self contained.



SMART ANTENNA



VS



iBEACON

Commercial/Industrial/
Business

PRODUCT CATEGORY

Consumer/ Light Business

Waterproof IP65 extruded aluminum housing Manufactured in North America

CONSTRUCTION

Typically plastic, manufactured in Asia

Power supply is hard wired (extended operating life)

POWER SYSTEM

Typically battery (except for USB devices plugged into a PC or power supply)

Ads via Bluetooth & Wi-Fi simultaneously

COMMUNICATION

"Ping" sent by Bluetooth only. No ads sent

Full graphic image/video/audio

ADVERTISING CAPABILITY

None. Sends an ID number only

Self determines which graphic to send

ADVERTISING METHOD

None. App does the work, not the iBeacon

None

EXTRA REQUIREMENTS

Requires an application to be located, downloaded, and installed.

Apply power, upload an ad or coupon

SETUP REQUIREMENTS

Pay to develop an App(\$\$\$\$\$), an iBeacon Management System, and a Content Management System, install battery, establish maintenance plan for inevitable battery wear

External, heavy duty

ANTENNA TYPE

Internal sliver of copper foil or simple loop

Up to 300 feet

RANGE

Up to 100 feet (affects battery life)

SMART ANTENNA



VS



iBEACON

98% (Android, Windows Phone 8, Blackberry and iPhone)

NATIVE PHONE COVERAGE

22% (iPhone) Android adoption very slow

None

SMARTPHONE USER'S COSTS

Data fees if phone uses cellular data is to access the app's web interface

Secure and anonymous

SECURITY

Requires user's personal info to acquire the app. Once the host has the personal info, there is risk (e.g. Target stores data breach)

Non-intrusive, records phone ID number only

PRIVACY

Intrusive-app can continuously monitor user's movements

Included, with Content Management

BACK OFFICE SUPPORT

Purchase several software packages

Yes, can be moved around, or used in a vehicle to serve ads. Works anywhere, indoors or outdoors.

MOBILE OPERATION

No, restricted to the apps conditions. iBeacons can only be used for tracking objects or people in a confined area. No IP65 rated outdoor models yet.

Set a Smart Antenna in an area and it will automatically begin to contact phones and deliver ads or coupons

HOW TO DEPLOY

Set an iBeacon in an area, develop and configure an app to know what the iBeacon is supposed to trigger, providing it does not change locations. The app will deliver ads or coupons if the customer opens the app (if they have downloaded and installed the app and if the app is running)

Additional Details and Commentary

PRODUCT CATEGORY: The iBeacon system is a product marketed by Apple, a consumer electronics company. While others created the beacon and Bluetooth technologies, Apple has morphed the concepts into a marketable system. iSign manufactures commercially oriented products, designed to withstand the conditions of the retail and commercial environments.

SETUP REQUIREMENTS: The iBeacon system requires that the advertiser pay to develop an application for every type of phone they want to address (iPhone, iPad, Android (each variant of the OS and device type)). The costs for app development can be as little as several thousand dollars for an app with no useful retail purpose. However, development of an app for a retail operation could cost between \$30,000 and \$100,000, depending on the features.



Once an app is created, the operator must pay to develop or populate a database that contains the specific offers for each beacon's location. This database must be updated every time any iBeacon is moved or it loses its location context. Then the operator must pay to develop an iBeacon Management system to track each iBeacon's health and location and maintenance schedule. In contrast, the Smart Antenna needs someone to make a small graphic ad and upload it to the supplied Content Management System. If the Smart Antenna is relocated, it takes its ads with it to the new location. This usually does not require an edited ad to be uploaded to maintain location context.



CONSTRUCTION

The iSign Smart Antenna is enclosed in an IP65 rated waterproof metal casing, making it extremely robust. iBeacons are typically plastic, and with retail prices at well under \$100 each it makes the iBeacon units disposable.



RANGE

The Smart Antenna reaches up to 300 feet omnidirectionally, depending on obstructions. The range can be set using the supplied back office interface. A battery-powered iBeacon has a maximum range of 100 feet. With normal usage, this range will slowly diminish following the discharge curve of the battery.



PRIVACY

The Smart Antenna only records the phone type and the phone's anonymous ID number. Neither of these is private, and they have no connection to the owner's identity. To use iBeacons, the user must have an app, which can then correlate personal movements and activities to the user's name and personal information.



ANTENNA TYPE

The Smart Antenna uses a 5" rubber encapsulated whip antenna mounted outside of the heavy-duty casing for the greatest range in all directions. iBeacons use a very tiny strip on copper foil on the circuit board inside the casing that can be hampered if the casing has any metal content (e.g. metallic paint, or a metal foil decal)



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NATIVE PHONE COVERAGE

The Smart Antenna addresses the majority of the phones in the world. iBeacon began as an Apple variant of the existing Bluetooth system, so at this time, there is only support for iOS devices (Apple iPhones and iPads). We have not seen the creation of an Android app to date. Since adoption of the iPhone outside of the U.S. is slow, iBeacons will not likely see popularity on a worldwide basis for a protracted period.

SMARTPHONE USER'S COSTS

The iBeacon is totally unusable without an application to look for nearby devices. The app would need to be installed on the phone, and in the retail context, would not include product or store details this would be kept in a database accessible by the app IF THERE IS A GUEST NETWORK CONNECTION. That means that the user would need to log into the store's Wi-Fi. More likely, the app will simply use the owner's cellular data plan to access the database, at a cost to the user. The Smart Antenna has a built-in web server, so the database can be accessed directly from the Smart Antenna without using cellular data.

SECURITY

Every iBeacon cluster will need an app. This is obtained from Apple's iTunes Store. Users are required to sign up for an account using verified personal information, date of birth, and a valid credit card number, even for free apps. In addition to Apple holding onto personal data, the operator, like a Target or Wal Mart that builds an app for its iBeacon network would want to collect personal information for a loyalty program. This information would likely be mandatory, just like signing up for a membership on a website. This is required before iBeacons are usable in any way. The Smart Antenna requires nothing. No private information is collected or stored, unless the user opts into a loyalty program. (Note: the Herjavec Group, an independent data security assessor has certified the security of the iSign system)

POWER SYSTEM: The Smart Antenna has one cable that is plugged into a power supply for ongoing, stable power. Transmit power remains constant at all times. iBeacons typically use a coin cell for the smallest units, which begin to degrade from the first month of operation. Transmit range will slowly decrease over time until the battery is exhausted, at which time it will no longer transmit until someone discovers the dead unit. Other iBeacon devices such as USB dongles obtain power when plugged into a PC. However, a device plugged into a PC is not intended to be left unattended in a public area like a battery-powered iBeacon. (Note: if a dead iBeacon has been well concealed, and its location not documented, it cannot easily be found to facilitate replacement of the battery)

COMMUNICATION: The Smart Antenna transmits full content such as ads, videos or links to a managed web interface directly to a Smartphone using both Bluetooth and Wi-Fi without any other assistance. iBeacons repeatedly send a code "beacon" that can only be found if there is an application installed on the phone. The app recognizes the iBeacon's unique code and the app displays an ad on the smartphone, or accesses a web interface to get the details from a database. If the app is not running, or not installed, or the wrong app is installed, or has been deleted, there will be no usable contact at all. Since many people purge unwanted apps, the risk of losing contact with a customer is high. Since the Smart Antenna does not require an app, it will always contact any phone within its zone.



BACK OFFICE SUPPORT

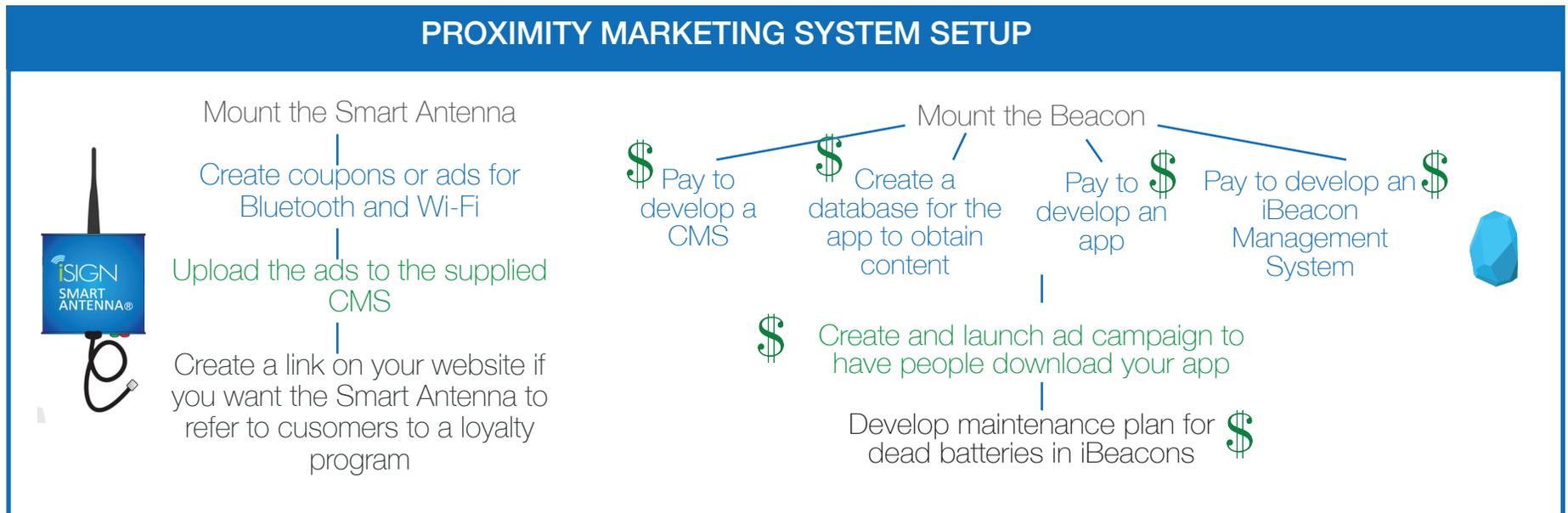
To use iBeacons, the operator will need to have an application coded for each platform. The costs to develop a retail capable app can cost from \$30,000 to \$100,000, depending on its interactivity and complexity. The point of using iBeacons is to interface with the customer, so a better app is more desirable than a "budget" app. The app is also individual, so operators cannot buy an existing app. That would be very useful.

Once the iBeacon app is created, the operator can now develop ads, using commercially available desktop publishing software like Adobe Photoshop and Illustrator (\$1,000). The Smart Antenna includes a free content development tool to format ad graphics for deployment at no additional cost. Operators can use other software packages to create more complex ads, if desired.

MOBILE OPERATION

The Smart Antenna is its own broadcast station, so it can be using in a moving vehicle to serve both Bluetooth and Wi-Fi ads. It is not restricted to a fixed location, where an iBeacon must always remain in its original location. However, if an iBeacon is moved, the operator must pay to have the app modified to know the new iBeacon location or the app will diligently provide incorrect information to the user, and the personal user data it collects will also be incorrect. For example, if an iBeacon was located in the ladies undergarment department of a department store, and it was moved to the menswear department, the app would send ads for ladies underwear to the male buyer whenever he was in the menswear department. The app will also be able to record multiple visits to the ladies wear department even though none occurred. Without updating the app, there is a high risk of alienating users.

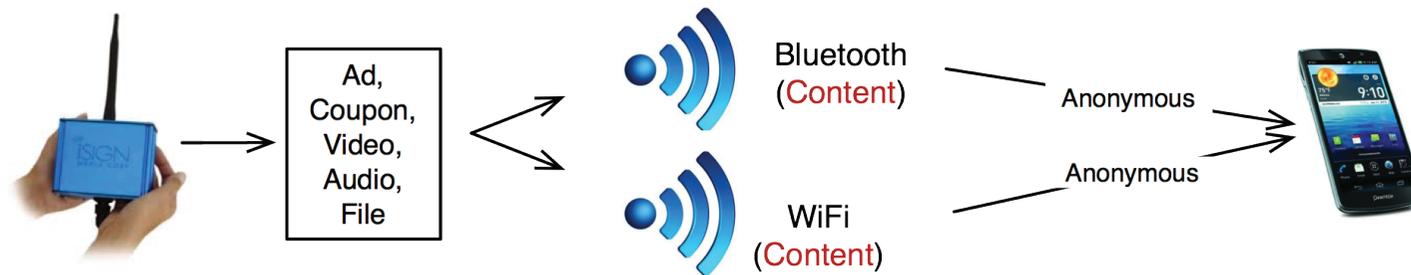
DEPLOYMENT



Smart Antenna **vs** iBeacon System

Complexity Comparison

This indicates the Smart Antenna's better value with dual radios, and its simpler and more private connection.



Smart Antenna

