DATA SHEET

SKYHOOK®

LOCATION AND CONTEXT FOR WEARABLES

SKYHOOK®

INTRODUCTION

Location data and the rich audience context that comes with it play a significant role in generating alternative revenue streams and optimizing user experience for wearable tech manufacturers.

That's why some of the world's leading device manufacturers turn to **Skyhook's Precision Location SDK** to differentiate from their competitors with superior features.

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How to implement location on your wearable device

Location For Wearables

Many wearables do not have GPS capabilities embedded. However, GPS-less devices powered by Skyhook are using passive Wi-Fi scans to detect nearby geolocated wireless networks for superior user experiences.

Skyhook empowers wearable devices to leverage location features even when a wearable does not have Internet connection. The wearable device can still gather location from passive Wi-Fi scans as long as it has a Wi-Fi chip.

Combined Bluetooth/Wi-Fi Chips Provide Location

Many Bluetooth chips on the market today, including the Broadcom BCM43142, have combined Bluetooth and Wi-Fi capabilities. By using these existing Wi-Fi chips, or by adding an additional low-cost part, wearables, like mobile phones can retrieve location by scanning for nearby Wi-Fi networks without ever connecting to one.

Wearables powered by these chips simply need to switch on their already built in Wi-Fi scanners to get location. Transmitting data over Wi-Fi and maintaining a Wi-Fi connection consume significant battery power. However, devices that only scan for nearby Wi-Fi networks to acquire location data are much more battery efficient. This is why Bluetooth/ Wi-Fi combo chips are the best option for size, cost and power on the Skyhook system.

If your wearable device has Wi-Fi capabilities or is using a Bluetooth chip that has Wi-Fi, your device can deliver a location-enabled frictionless user experience, all without installing any additional hardware. For devices that need precise location — and need it quickly, Skyhook delivers. Installing precision location on your device brings you the fastest, most accurate location features available.

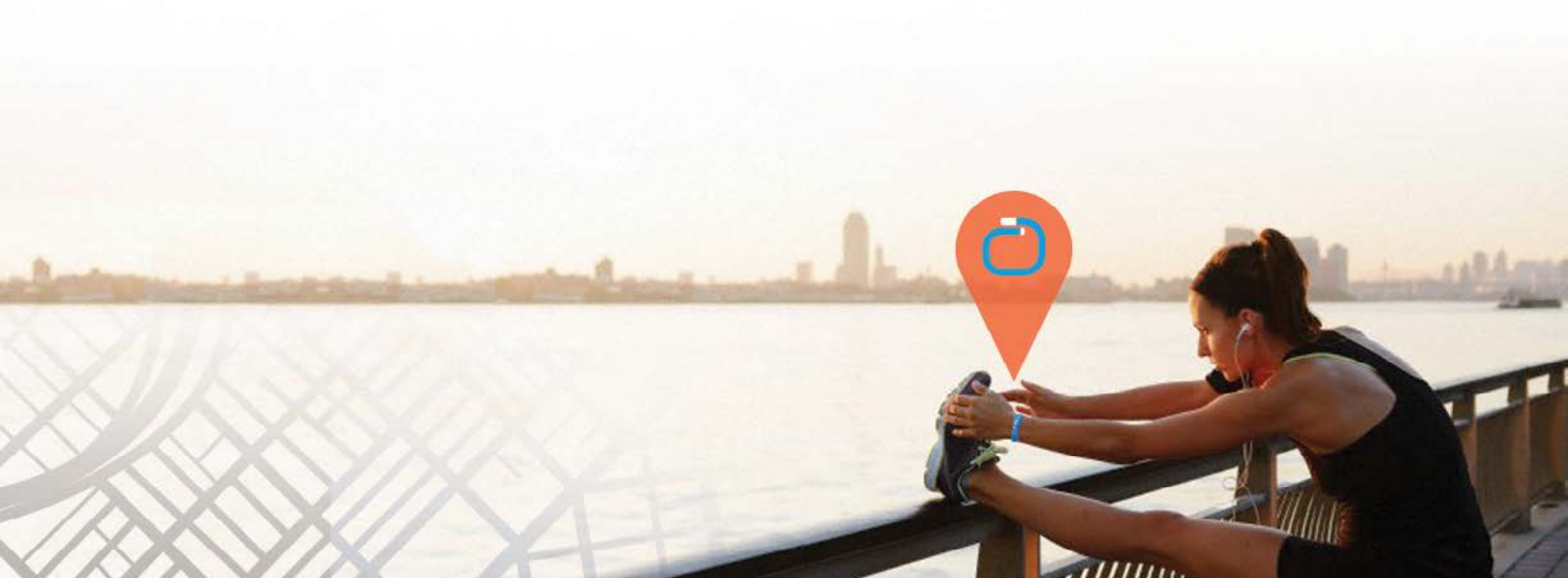
How Skyhook context drives your key metrics

Improved User Experiences

Providing Skyhook location data automatically to your device means that you require one less piece of manual input from your users. You can now deliver relevant experiences to your users based on where they go. For example, smart running shoes can now access the route users take when going for a run. The mobile app they pair with can map the run based on the geocoded data the shoes collect. The user experience extends beyond showing activity levels and can now show where the users' activity occurs.

Audience Context

SSkyhook builds in-depth user profiles from location data. Those profiles give wearable device manufactures valuable insights about their user base--valuable data for 3rd party application developers and business development partnerships.



How it works

Token Reconciliation

As a device moves, Skyhook records nearby wireless networks, collecting and encrypting groups of Wi-Fi networks into a set of tokens. When the device reconnects to the Internet, Skyhook reconciles the tokens with locations in its network.

Pre-Loaded Geo Tiles

Skyhook pre-loads data on nearby locations when a wearable device is online. When the device moves and disconnects from the Internet, Skyhook's technology exposes location in real time to the device.

User and Venue Profiles

Over time, we refine our knowledge of venues as users make location requests to our global network of geolocated access points. The more data we have about a location, the more we learn about who lives, works and visits there.

We assign layers of context to the corresponding areas, aggregated from millions of anonymized consumer behavioral profiles. The venues take on the attributes of those consumers who live, work, shop, eat and drink at that address.

How to save battery power

Downloading Data When Your Device is Connected to a Power Source

With Skyhook, your device preloads data on nearby locations when the device is charging. This technique draws power for data transmission from a power source rather than the device's battery.

Transmitting Data Over Wi-Fi

If your device connects to Wi-Fi, Skyhook detects that connection and preloads location data. When your device is in the field, it does not have to expend unnecessary battery power transmitting data over long-range cell networks.

The Result

The full-color picture of a users' run: where she went, hills she ran over, scenic views she passed, popular stopping points used by others in her social network. And her device paints that picture without draining much additional battery power.

Memory allocation

All of this is delivered in one simple SDK: without pre-loaded geotiles, Precision SDK storage space is approximately 500KB. With pre-loaded geotiles, the storage space varies, and can be anywhere from 1 ~ 4.6MB max.

Skyhook's software-only Precision Location SDK is the fastest, most accurate, most reliable and most flexible location system on the market today. Device makers can quickly and easily integrate the Precision Location SDK onto the device's operating system to deliver superior consumer-ready location results, or it can be added by app developers who are looking to provide seamless location results to their customers.