FOURSQUARE
PILGRIM SDK

How to Get the Most Out of Pilgrim SDK

A Feature Review of Foursquare's
Industry-Leading SDK

For Enterprise Customers
October 2019

FOURSQUARE

Introduction

How do companies like **AccuWeather** and **Objective Zero** power more personalized experiences for users? **Pilgrim SDK**—the location SDK embedded in our own products like Foursquare **City Guide**, the explore app, and the life-logging platform **Swarm**—helps these partners and others to develop a nuanced understanding of who their users are, based on where they go. With Pilgrim, companies can develop a well-rounded profile of their consumers, learning where they go, why they make the decisions they do, when the best moments are to reach them, and how to captivate them using impactful messaging with contextual, location-driven content. A user's foot-traffic data is the key, helping developers paint a picture of each user's lifestyle and affinities based on the frequency and recency of visits to venues. The result? Companies like yours can deliver enriching consumer experiences through powerful personalization and advertising efforts.

Taking into account the distinct use cases and our range of recommendations, this introduction to Pilgrim's core features can help you start building better contextual experiences, sooner. In this report, you will learn how to get the most out of Pilgrim SDK—leveraging its rich feature set to build hyper-personalized app experiences. Take advantage of Pilgrim by:

- Gathering more data on iOS and Android with location-permission best practices

- Crafting compelling and impactful user opt-in language

- Building better contextual experiences with key Pilgrim SDK features, including:

  - Near (Geofence) and here (Snap-to-Place) user targeting

  - User States for richer personalization

  - SDK Segments for engagement and ad targeting

Location Permissions Overview

Foot-traffic data provides insight into who your users are, based on what chains or venue categories they visit in the real world. But in order for developers to get an "always-on" view into their users' movements, they first need them to consent to sharing their background location data. To boost user opt-in, we recommend that developers become familiar with the user-permission

Opportunity for User Opt-In Growth

While…	…only
2/3	**29%**
of consumers are willing to share their location…	currently enable "always-on" location sharing.

Source: Blis Research

practices for each operating system (OS). This is especially important as two of the largest OS platforms—iOS and Android—have made significant changes, which began rolling out in late 2019.

Let's review how location permissions work on each platform, how they've changed, and how developers can boost "always-on" user opt-in—freeing up more location data to power Pilgrim SDK features.

Apple iOS

Currently, iOS gives app users three options for location sharing: "Only when app is open," "Always allow," or "Don't allow"—but Apple's permission standards are changing. With **iOS 13**, Apple has removed the "Always allow" option at initiation; now, users are presented with a prompt for background location after the first app session. What's more, Apple iOS users are presented with an "Allow once" option that gives an app temporary access to the person's location for that specific use. Apps will also automatically re-prompt for permission every time the user declines location sharing or selects "Allow while using app." If the user selects any other option, they will never see a prompt again.

That's not the only thing that's new. The app also presents users with a "Change to always allow" prompt after the first session when the app is backgrounded. Another new addition: an "Allow once" option that gives the app temporary access for just that specific session, while requiring further permission for persistent access. If this option is selected, users are prompted for location permission again at their next session; these users are then presented with a map view, compiling all the locations and location trails the app received from iOS 13. At this point, users have the opportunity to choose between "Only while using" and "Always allow."

Updates to iOS Location Permissions

	Current	iOS 13
Allow while using app	●	●
Always allow	●	●
Don't allow	●	●
Allow once		●

Lastly, a note on app publisher controls. With iOS 13, these location verification notifications will automatically be sent to the user. Not only that, unless specified above, it's unclear precisely how many times these prompts will be pushed to users. As you can see, the upcoming OS changes put more controls in the hands of users, giving visibility into how app publishers are using their data. For advice on opt-in tips, see the following sections.

Additional changes: With iOS 13, Apple also requires developers to request permission to use Wi-Fi, Bluetooth, or user IP addresses to infer the location of users. iOS 13 devices also alerts users when apps are using their location in the background without opt-in consent.

Google Android

With Android 9.0, Android's most recent OS, users have two location permissions options: "Allow" or "Deny" access, which apply to when an app is in use, off, or gathering data in the background. That has now changed.

Starting with **Android Q**, users also have the option to grant location access to an app only when it is currently in use. This change brings Android generally in line with the options available to Apple iOS users. As always, Pilgrim SDK features are most impactful when users opt for background location sharing.

Updates to Android Location Permissions

	Current	Android Q
Allow	●	
Deny	●	●
All the time		●
While in use		●

Additional changes: With Android Q, users may receive periodic reminders that they have enabled background location sharing, with the option to deny access. Moreover, when presented with any opt-in alert, users have the option to "Deny and don't ask again." This underscores the value of demonstrating to users why "All the time" access is critical to your app's use. As a note, if users upgrade to Android Q from Android 9.0 or lower, the system will automatically preserve their previous location preferences (including "All the time" access), making that the default setting.

Boost Location Opt-In Rates with Key Platform Strategies

To boost background location-sharing opt-in rates, developers should showcase the value that location experiences, powered by Pilgrim SDK, provide. The following techniques, in particular, have proven useful to increase user opt-in on each platform.
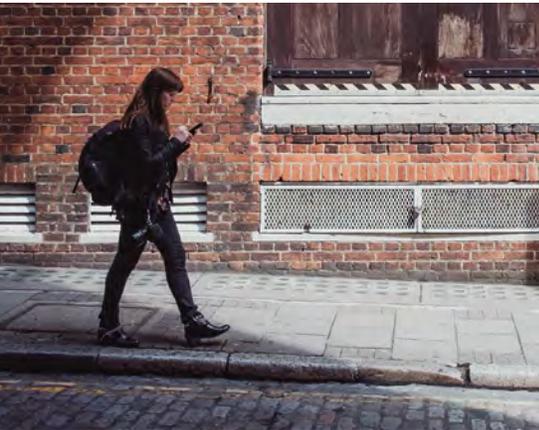
Apple iOS

Many of our partners leverage Pilgrim SDK to send contextual notifications when users arrive at a venue, which requires that users have background location-sharing enabled. To ensure that users grant permission, ask for background location access only after the user has already granted permissions for notifications. That way, they understand what feature location powers (e.g., location-based notifications), see its value and are less likely to deny location permissions, when prompted.

Google Android

Many apps have a name that indicates why location sharing is useful—weather, navigation, or fitness apps, for instance. No matter which app you choose to build, we recommend that you ask for location permission immediately when the app opens. Historically, users are happy to grant permission because they understand that location powers the app, and simply want to clear the dialogue box to explore. This is how Google's Maps application asks for permission on iOS, for instance.

Additionally, developers should demonstrate the value of location in the first few days of the app's use. By showcasing the value that users receive from "always-on" location and Pilgrim SDK, developers can ensure that users won't disable background location-sharing when the next OS prompt appears.

Craft Impactful User Opt-In Language

When users opt-in to "always-on" location sharing, developers gain a persistent view into users' movements, and therefore a deeper understanding of their behavioral preferences. As a result, developers can create more

personalized marketing and outreach efforts—with more impactful location features, deeper behavioral insights, and better engagement.

To increase background location-sharing opt-in rates, developers must craft effective consent language.

When it comes to opt-in language, users are most receptive to direct and transparent messaging that explains how data is collected and what the app's sharing practices are. The most impactful opt-in language will be short—about 50 words or less—and clearly explain the following:

- Why the app needs the user's location information
- How location data is used
- What your sharing practices are
- What the value of sharing location is to users
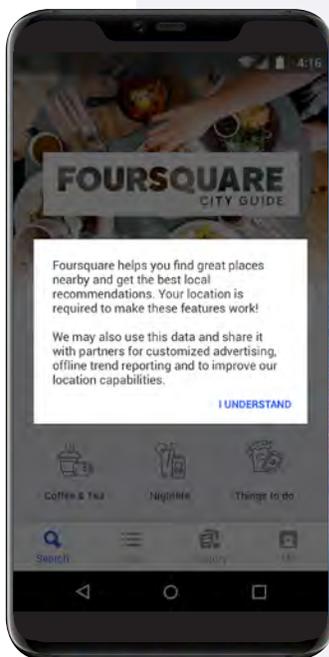
Example
Foursquare City Guide

Word count
50 words or fewer

Sample copy
"Foursquare helps you find great places nearby and get the best location recommendations. Your location is required to make these features work!"

Pro tips from Foursquare:

1. Display the opt-in prompt before the OS displays its prompt. That way, location permissions are only requested after users have already indicated they will agree.

2. **As Apple's guidelines suggest, show users the location-enabled feature before asking for location permission, so they have the correct context for the feature their location powers.**

3. **Alternately, display a series of onboarding screens that explain the use of location and/or notifications. We have found that explanations of pings dramatically increase the number of users who opt-in to them.**

Get the Most out of Pilgrim SDK Features

Now that we've covered how to boost user opt-in for location sharing, developers can learn how to leverage the SDK's rich feature set to build better app experiences—uncovering where consumers go, why they make purchase decisions and how to reach them with powerful messaging.

In this section, you will learn how key Pilgrim SDK features work and how to leverage them for impactful location-enabled experiences. The features covered are:

- Here (Geofences) and near (Snap-to-Place) location targeting

- User States for richer personalization

- SDK Segments for engagement and ad targeting

A Quick Word on Privacy

To use the features discussed below, developers must follow laws and regulations that protect consumer privacy. That means including a privacy policy for users that's transparent about laws, regulations, and industry standards, and clearly mentioning that the app uses Pilgrim and data can be transmitted to third parties. It goes without saying that the app needs to follow the guidelines of data protection laws when processing relevant personal data, and abide by the **Privacy Shield Principles**.

Lastly, it's critically important that anyone using Pilgrim SDK has a privacy policy that covers location consent. If a privacy policy doesn't exist, please connect with a legal professional. Before building with Pilgrim, remember to review Foursquare's **privacy policy**.

"Here" Location Targeting: Snap-to-Place

With **Snap-to-Place**, a core part of Pilgrim SDK's visit detection technology, developers can determine, with a high degree of confidence, when a user has visited a specific venue. Snap-to-Place uses machine learning to passively identify when someone has visited a place, without any direct action from the user. Proprietary to Foursquare, Snap-to-Place enables developers to generate detailed behavioral insights and visit histories to power contextual content. Such location-based pings consider the frequency and recency of when users have visited specific chains or venue categories (i.e., fitness centers) to create more targeted communications. For example, a popular quick-service restaurant (QSR) chain could send push notifications for a new healthy salad offer to users who visit fitness centers two to three times a week.

How We Do It: Snap-to-Place returns a list of venues at the user's location, according to how well the venue "matches" the location. Pilgrim SDK lists up to 50 venue results, applies confidence levels to them, and specifies their accuracy in terms of latitude and longitude, listed in meters. By considering a range of signals to achieve an accurate prediction, including Wi-Fi, Bluetooth and GPS, Pilgrim SDK automatically recognizes more than 60 million commercial venues.

"Near" Location Targeting: Geofences

With Pilgrim SDK's geofencing feature, developers know when a user is nearing, or has entered, a venue, depending on set thresholds. This is invaluable information for developers who want to ping users the moment they enter a location, instead of waiting two to three minutes for Foursquare's visit detection technology (i.e., Snap-to-Place, featured above) to provide a more accurate prediction. Developers can also ping users who are approaching a venue, helping to convince them to stop rather than walk past.

User States for On-the-Go Consumers

User States help developers understand when and where consumers move through the world—providing them with actionable data and context needed to drive better app experiences. User States covers three areas: Home/Work, Commute, and Travel.

Home/Work and Commute: To more accurately reach people on stops that already are a part of their weekly routine, consider taking advantage of our User States features. With Home/Work, you gain deeper context into daily patterns; in fact, after three to seven days of use, Pilgrim SDK will determine the user's home and work location. [1]

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[1] To see if the home and work locations have been set, please check the "hasHomeOrWork" property. As you get visit data back from the SDK, you may not want to process any visits that do not have "High" confidence until Home/Work has been set. Because a user's home is not featured in our venue database, we will be unable to accurately attribute "home" visits until Pilgrim learns that this is, in fact, his or her home.

Commute knows when consumers leave home or work—automatically flagging these repeat destinations—between the hours of 7 to 10 a.m. or 4 to 6 p.m. on weekdays. When developers understand where consumers live and work, they can reach them at the right place, at the right time.

Travel: Travel understands when consumers move farther than 200 miles from their homes such as when users are on vacation. Consumers are considered "traveling" until they return to a 200-mile radius of their homes, or when they establish a new "home"—defined as new area that's visited for more than 17 days. This feature empowers developers to cater to consumer travel preferences, as well as reach consumers as they move to new locations.

How We Do It: Proximity targeting use cases works by configuring geofences around specific venues. Developers can configure geofences through Foursquare's Pilgrim web console or by using our Geofence API to post multiple geofences. This is ideal for developers who want to bulk-upload geofences and manage their preferences.

New Feature Alert: In late 2019, Foursquare introduced a feature called Geofence Builder, which allows non-developers to add geofences, one-by-one—configuring size, shape, dwell times and more—using an intuitive, step-by-step geofence wizard in our console.
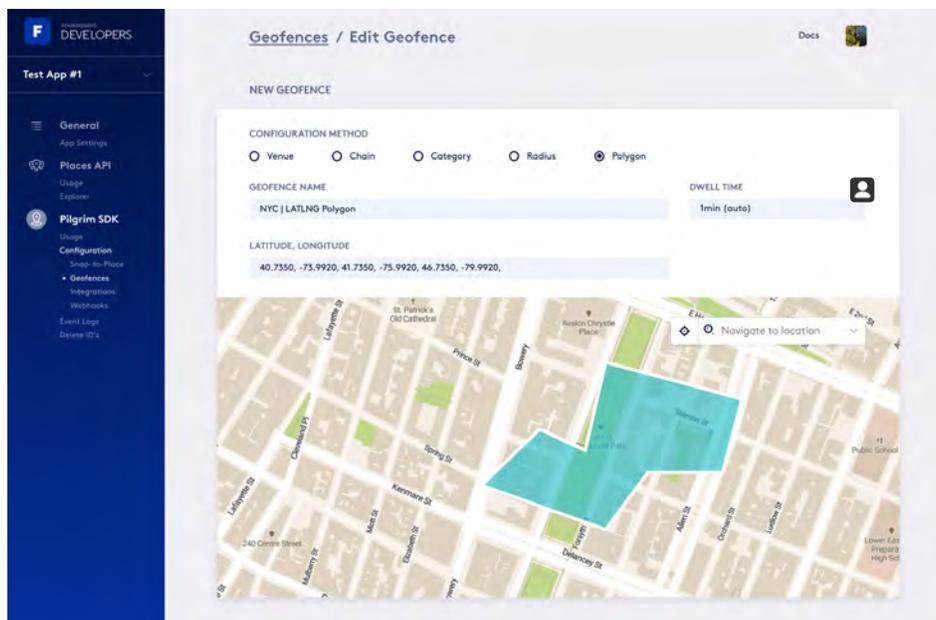
Pilgrim SDK Segments and Attribute-Based Targeting

To build effective campaigns across platforms and devices, developers need to target the right audiences with personalized messaging. Pilgrim **SDK Segments** provides the data-driven insight needed to reach specific consumer groups and cater directly to their needs. Using 17 pre-defined user segments—such as the Super Shopper, the Technophile, and the Foodie— Enterprise clients can target audiences with highly tailored messaging, or even empower advertisers to send behavior-based campaigns.

Additionally, Pilgrim SDK Segments are plug-and-play, which means that developers can immediately apply them to their customer segments. There are a number of options for user data-delivery methods, including:

- **Webhook** to an MMA partner including mParticle, Braze and Iterable
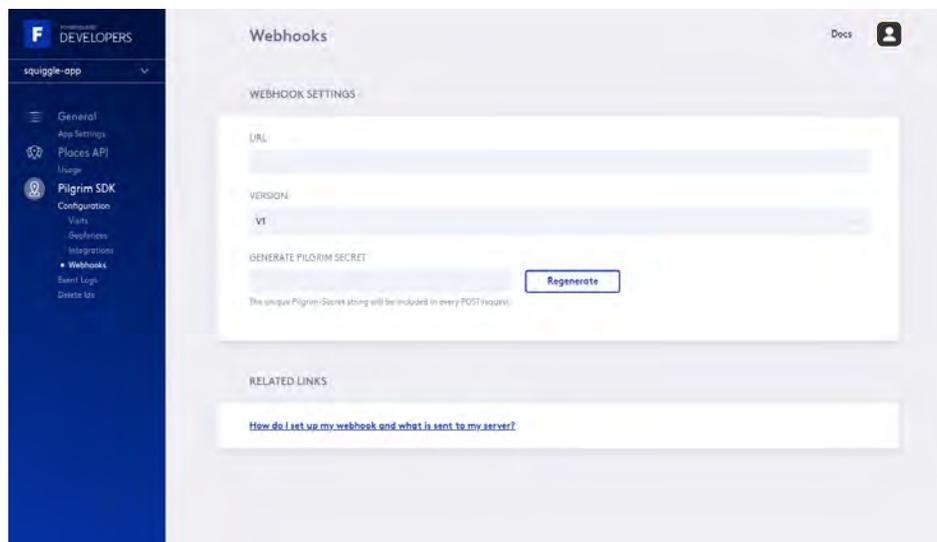
- Export via Secure File Transfer Protocol (SFTP) or a service like Amazon Simple Storage Service (S3)

How We Do It
Foursquare uses a data-driven approach to build these segments, analyzing number of consumer attributes, including:

- Demographics—age and gender

- Category depth—the types of places, like restaurants or gyms, that users visit

- Ratings—the popularity of the places that users visit

- Pricing—the amount that users are willing to spend

- Visitation history—the frequency and recency of user visits

We can help you create custom user segments, improve targeting and personalization, or employ a data-centric approach to engage with key customer segments and improve customer loyalty. Before you activate SDK Segments, keep in mind that they are not retroactive, which means they will not include any user activity from before the feature was enabled. Once Segments are turned on, developers can usually begin bucketing users into segments within the first month. Developers must receive user location permissions to use this feature.

Conclusion

Foursquare is the most trusted independent location-data and technology platform, powered by the most precise real-time movement map in the world. We're excited to share our learnings with you—helping you and developers worldwide create better contextual experiences for users. With Foursquare's developer-friendly Pilgrim SDK, you can better understand who your users are, where they go, and what their interests are—enabling you to engage them with contextually relevant and geo-aware content, and create true personalization at scale.

To learn more about using Pilgrim SDK to drive your business forward, test Pilgrim by creating a free account at developer.foursquare.com. Enterprise clients looking to access our advanced SDK features can reach out to us at enterprise.foursquare.com/pilgrim.