The decision to build location infrastructure

Radar

Location infrastructure is a critical component in developing powerful app experiences that increase customer engagement, satisfaction, and loyalty. From developing immersive on-premise experiences to optimized order ahead and pickup and attracting customers to nearby locations, location infrastructure helps businesses create the experiences that drive results. Once a business decides to invest in location infrastructure, they need to decide whether to build the required infrastructure in-house or to leverage third party solutions.

Building location in-house

Once they decide to use location infrastructure, many businesses choose to build an in-house solution to start. However, this can present unforeseen hurdles as location data presents unique challenges that can lead to suboptimal experiences when scaled.

Environment variability

Optimizing the experience for one configuration at one location does not guarantee the same reliability at every location. This is why it's critical that teams are able to flexibly tune location collection and detection logic on a per location basis without code changes. Doing so will ensure the experience maintains its robustness as it scales.

Observability

Teams must be able to effectively monitor performance, optimize features, troubleshoot issues, and uncover insights in a data-driven way. Without geospatial tooling and rich downstream analytics it is very challenging to analyze data at scale.

Maintenance

Every year, major new iOS and Android releases mean recurring development cycles spent testing the new versions and iterating. For teams that develop location infrastructure in-house, this is expensive maintenance that slows down the execution of net new initiatives.

Device detection limitations

When the use case involves monitoring geofences by the device, in-house solutions can only detect geofence entries with circular boundaries with reliability down to 100m radii. This does not deliver accurate detection that maximizes recall and precision. Additionally, monitoring geofences on the device can lead to jumpy entry and exit events that cause significant battery drain. Oftentimes, the investment required to build server-side geofencing in-house to overcome these limitations is too high.

Building with Radar

Radar can serve as your all-in-one location infrastructure platform, so you can build a multitude of experiences while significantly reducing time-to-value. With Radar, your teams can focus on building the right customer experiences without needing to become location experts.

Geofences
Industry-leading accuracy with unlimited geofences, polygon geofences, and beacons.

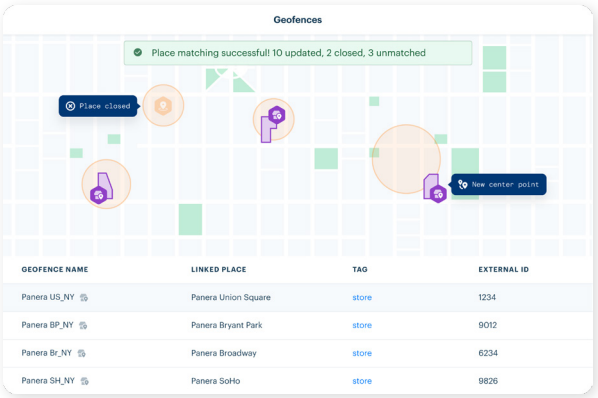
Trips
Turnkey dashboards, integrations, and flexible SDKs and APIs for order pickup arrival detection.

APIs
Flexible and affordable geocoding, search, and distance APIs with high-quality address and POI data.

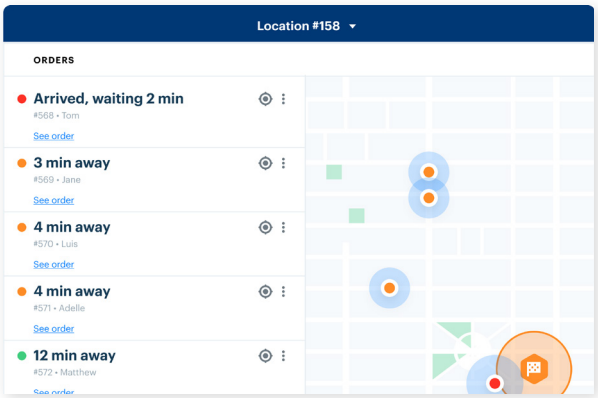
Radar has been designed to address the scaling challenges commonly seen with in-house solutions.

Eliminating environment variability concerns

Radar provides no-code UI controls to adjust geofence boundaries and remotely change location collection behavior.



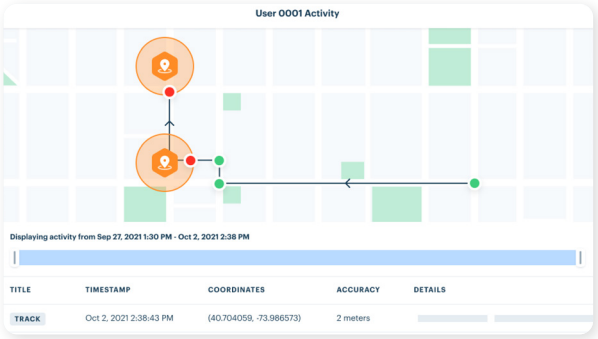
Geofence management
Manage millions of geofences with ease, or use our place polygons for unparalleled accuracy.



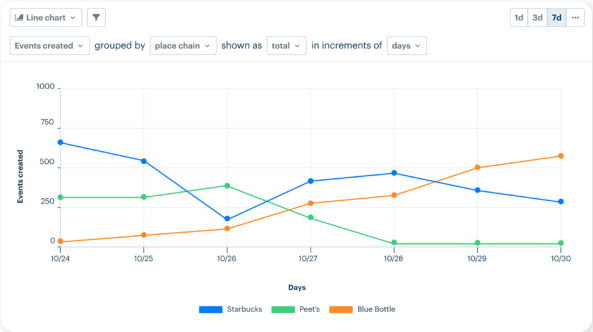
Geofences
Turnkey dashboards and integrations for customer arrival detection, location-based messaging, and more.

Observability

Radar has built out a rich dashboard for debugging, monitoring, and exploratory analytics to enable data-driven decision making.



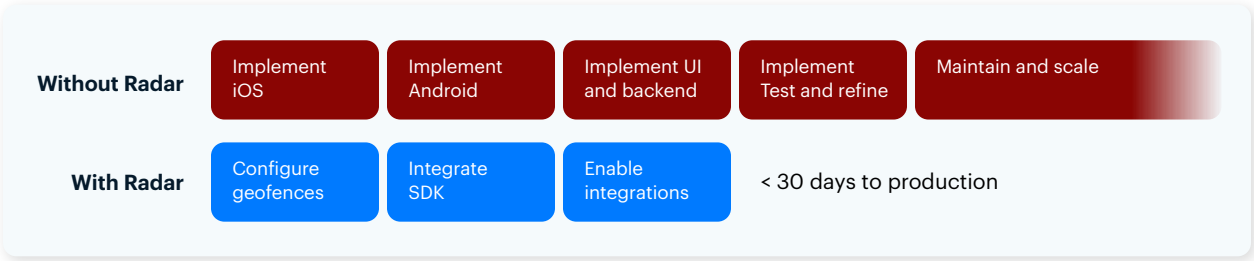
Simulator and debugger
Visualize every geofence event and test your implementation end-to-end without leaving your desk.



Analytics
Location analytics to understand not just how users are engaging with your app, but where users are engaging with your app.

Maintenance

By using Radar's ready-to-go location infrastructure, you can accelerate your time-to-value and minimize the resources required for building and maintaining location across OS and device types.



Device detection limitations

Radar leverages server-side logic to support geofencing controls beyond what can be done with native location services.

	Native location services	Radar
Location detection	Accuracy down to 100m	Accuracy down to 5m
Geofence accuracy	Limited to large diameters	Easy-to-manage, complex polygons, isochrones
Places	Requires third-party POI dataset	Robust POI dataset and Place matching to ensure geofences are accurate and up-to-date
States and regions		Polygon geofences accurately reflect state and region borders

Case study: Bed Bath & Beyond

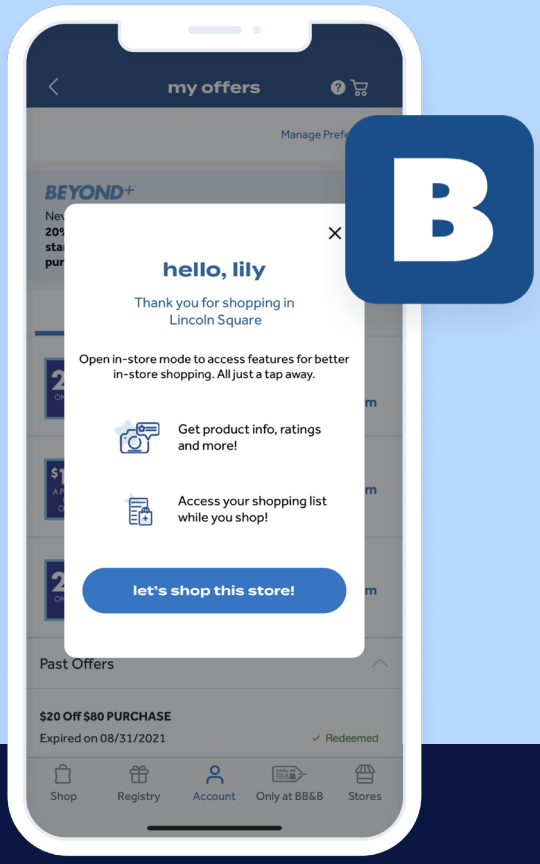
Bed Bath & Beyond is in the midst of a full digital transformation, new store formats, new e-commerce platforms and new native apps. **It became too challenging to manage native geofencing while supporting multiple business requirements.** Radar is now powering geofencing for Bed Bath & Beyond and Buy Buy Baby in the US and Canada.

Before choosing Radar, the team at Bed Bath & Beyond had built their own in-house geofencing tooling but had three major issues:

1. Accuracy with their homegrown solution was causing the in-store mode to activate when customers were outside the store, or wouldn't activate when customers were in-store
2. Engineering was missing sprint deadlines due to high maintenance costs and constant Android and iOS debugging
3. Marketing and operations wanted to use geofencing for BOPIS and CRM, but it was too challenging to support business requirements from other departments.

The company successfully implemented Radar to improve the in-store shopping experience by providing three pieces of functionality upon store entry:

+ Activating shopping lists
+ Activating store offers and scan to pay functionality
+ Activating a registry creation feature with barcoding scan functionality.



Learn more at radar.com
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