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Field Testing in QSR: McDonald's Leading the Way

From Concept to Curbside: How McDonald's Perfects Digital Engagement

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INTRODUCTION

As McDonald's continues to lead digital transformation within the quick-service restaurant (QSR) industry, the integration of geofencing into its mobile application testing strategy represents a strategic advancement in both product quality and customer experience. Geofencing is a location-based technology that leverages GPS, Wi-Fi, and cellular data to create virtual boundaries around physical locations, enabling applications to trigger predefined actions when users enter or exit those zones.

Within the McDonald's ecosystem, geofencing can be applied across restaurant footprints—including parking areas and drive-thru lanes—to enable contextual customer interactions such as push notifications, order-status updates, location-based promotions, and automated order-preparation workflows. These capabilities are especially critical for validating key digital experiences such as curbside pickup, drive-thru Ready On Arrival (ROA), loyalty rewards, and personalized offers—cornerstones of McDonald's evolving omnichannel engagement strategy.

PURPOSE AND OBJECTIVES

The primary objective of incorporating geofencing into field testing is to validate mobile application functionality and performance under real-world operating conditions. Unlike lab-based testing, which is limited to controlled and simulated environments, field testing enables teams to observe real customer behaviors, system interactions, and performance variations in live restaurant settings.

This approach allows validation across conditions such as fluctuating network connectivity, GPS accuracy variability, device diversity, and traffic congestion. By simulating end-to-end customer journeys—including drive-thru, curbside, front counter, and dine-in scenarios—geofencing-enabled field testing uncovers edge cases, performance gaps, timing inconsistencies, and usability issues that are often invisible in traditional testing environments.

IMPLEMENTATION STRATEGY

A successful geofencing-based field testing strategy begins with intentional test-site selection. Locations should reflect a representative mix of urban, suburban, and rural restaurants, as well as operationally complex layouts such as dual-lane drive-thrus or limited parking environments.

Geofences are typically configured using precise GPS coordinates and structured as concentric zones to support progressive customer engagement. For example, an outer perimeter may trigger a welcome message or promotional notification, a mid-range zone may initiate kitchen order preparation, and an inner zone may confirm customer arrival for pickup or service. This layered design enables teams to assess the accuracy, timing, and reliability of system responses as customers move through physical spaces toward the restaurant, providing deep insight into real-world digital-to-physical interactions.

TRADITIONAL ORDER FLOW OVERVIEW

In a traditional McDonald's order lifecycle, orders can be initiated across multiple channels, including the Global Mobile App (GMA), kiosks, and front-counter or drive-thru point-of-sale (POS) systems.

For mobile orders, customers place and pay for their orders through the Global Mobile App, after which an order ID is generated and confirmed via a digital receipt. Orders are then queued in the Kitchen Video System (KVS) and routed to the Made-For-You

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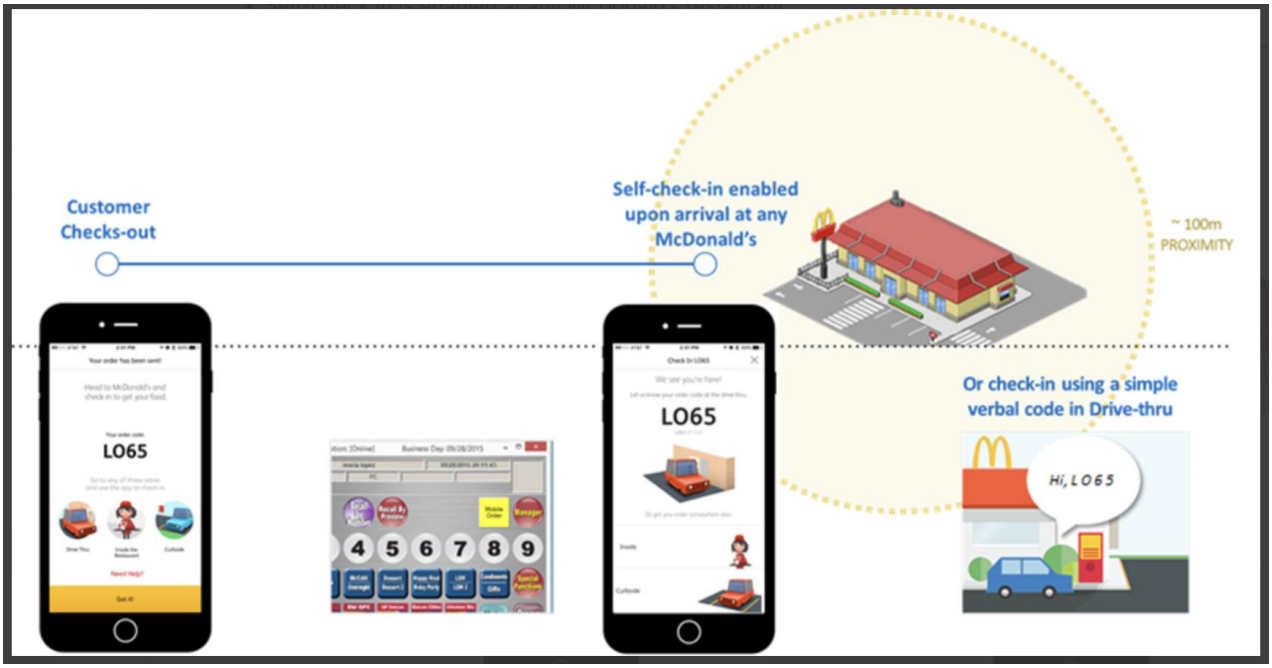
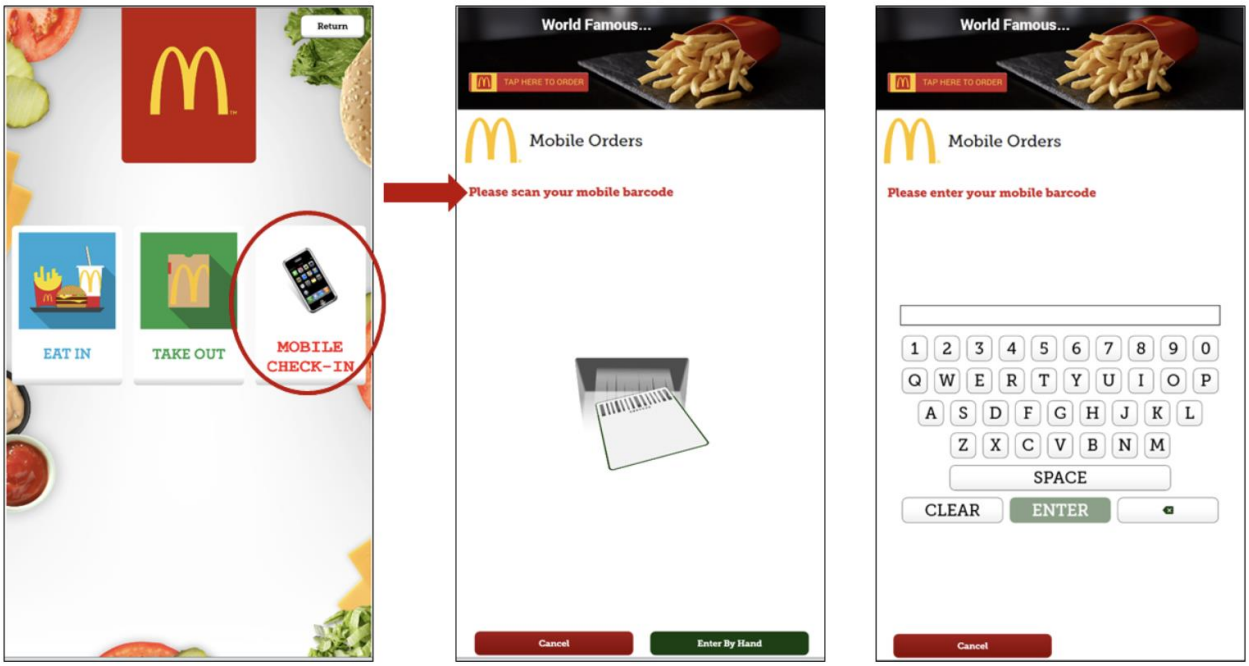
(MFY) system across front counter and drive-thru operations. Crew members prepare the food and advance orders through their respective expo stations, where servers finalize the order and generate a pick list or Order Ready Board (ORB) update, signaling order status within the restaurant.

Orders are fulfilled through multiple points of delivery, including front counter, mobile order pickup (MOP), drive-thru, curbside, and table service. Customers can self-check-in upon arrival, while crew members may recall mobile orders using a four-digit code presented at checkout. Alternatively, customers can check in directly at kiosks by scanning their barcode. Once verified, the completed order is delivered to the customer.





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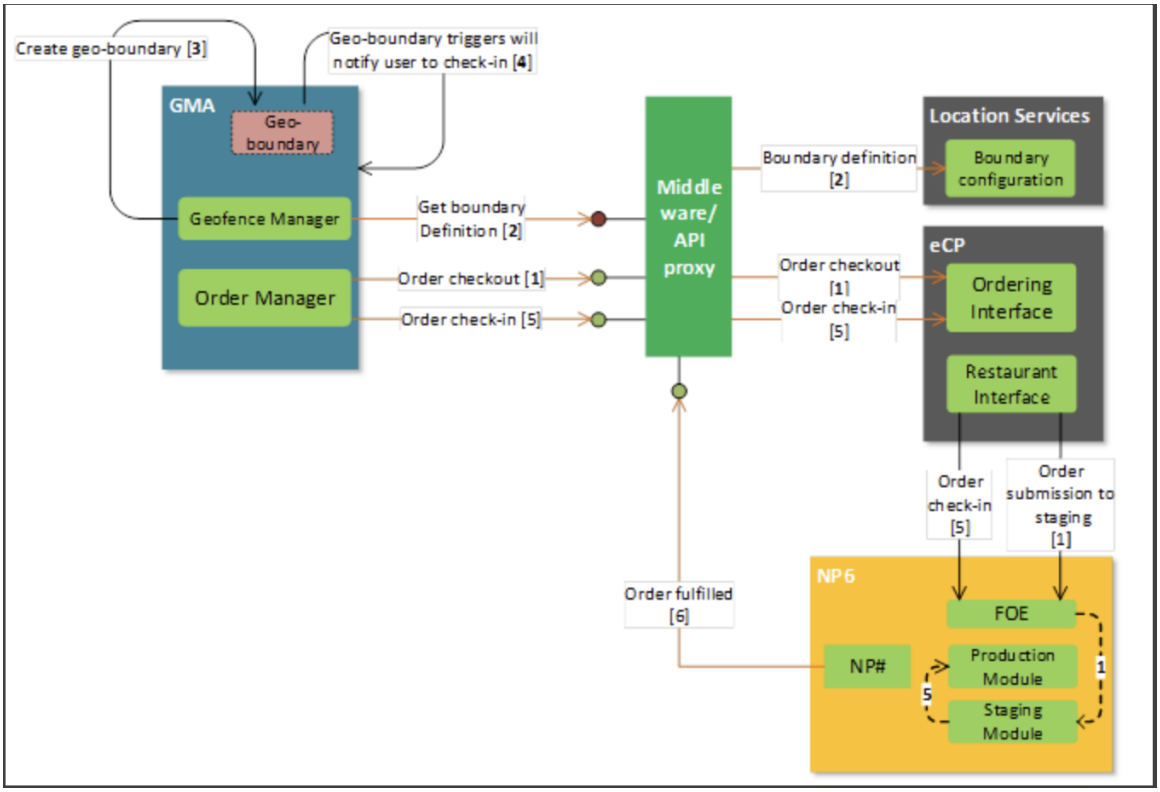

READY ON ARRIVAL (ROA) – DRIVE-THRU ENABLEMENT

Ready On Arrival (ROA) is a digital app feature launched in the U.S. market in April 2024. Within the Drive-Thru (DT) experience, ROA is enabled through an app integration with the Fairway bundle, allowing restaurants to seamlessly manage ROA orders within existing operational workflows.

To enhance the overall drive-thru experience for both digital and traditional customers, the following initiatives are being implemented:

- **Drive-Thru ROA Enablement:** Extend Ready On Arrival functionality to drive-thru orders, enabling seamless digital order processing.
- **Accurate ETA and Just-In-Time Preparation:** Use real-time location and arrival data to ensure orders are prepared at the optimal time for customer arrival.
- **Improved Service Times (SOS):** Reduce drive-thru service times by aligning kitchen operations with customer proximity and arrival patterns.
- **Geo-Fence-Based Kitchen Injection:** Trigger kitchen order preparation based on customer location to improve operational efficiency and readiness.
- **Increased Digital Adoption:** Encourage traditional drive-thru customers to adopt digital ordering by highlighting the speed, convenience, and predictability enabled by ROA.

The purpose of this initiative is to extend the existing Ready On Arrival technology and customer experience into the drive-thru channel, delivering faster service, operational efficiency, and a more consistent customer experience.

DATA COLLECTION AND ANALYSIS

Data collection is a foundational element of geofencing-based field testing. Each geofence interaction is captured with detailed telemetry, including timestamps, device identifiers, operating system versions, application builds, and the specific events triggered. This data enables teams to evaluate application responsiveness, feature reliability, and overall user engagement across real-world scenarios.

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In addition, the data supports segmentation by device type, platform, and app version, allowing for targeted analysis and faster root-cause identification. Geofencing data can also be leveraged for A/B testing different messaging strategies, interface designs, and feature configurations, providing empirical insights that directly inform product improvements and release decisions.

BENEFITS OF GEOFENCING IN FIELD TESTING

The benefits of incorporating geofencing into field testing are significant. From an operational standpoint, it helps ensure restaurants are prepared to receive and fulfill digital orders efficiently, reducing customer wait times and improving order accuracy. From a customer experience perspective, geofencing enables timely, relevant, and seamless interactions, reinforcing trust in the digital journey.

This approach also supports scalable testing through phased rollouts across regions and markets with minimal operational disruption. Importantly, geofencing-driven testing promotes strong cross-functional collaboration across product, engineering, operations, quality, and analytics teams, ensuring technical capabilities remain tightly aligned with business and customer outcomes.

CHALLENGES AND MITIGATION STRATEGIES

Despite its advantages, geofencing-based field testing presents several challenges that must be proactively addressed. GPS accuracy issues—particularly in dense urban areas—can result in false triggers or missed geofence events. During U.S. field testing, scenarios were observed where users crossed the geofence, but the order was not injected into the kitchen system. As a result, crew members did not see the order, food was not prepared on time, and the "prepare food now or later" logic failed to trigger as expected.

These issues can be mitigated by augmenting GPS with Wi-Fi triangulation and adjusting geofence radii based on environmental conditions. Stores are enabled to configure geofence sizes—small, medium, or large—based on their physical layout and surrounding infrastructure, improving location-detection accuracy.

Privacy and regulatory compliance represent another critical consideration. Adherence to data-privacy regulations such as GDPR and CCPA requires transparent communication, explicit user consent, and robust opt-in mechanisms. Location services must be enabled for geofencing-driven features to function. When location services are disabled, the order summary screen informs users that food preparation will begin only upon in-restaurant arrival, effectively disabling Ready On Arrival. Testing typically covers both scenarios—location services enabled and disabled—as well as mocked location testing using predefined latitude and longitude values for different restaurant locations.

Device variability further complicates testing, requiring validation across a wide range of hardware models, operating system versions, and network conditions. Finally, store readiness is essential to success and must be supported through crew training and alignment of in-store workflows so that digital triggers translate reliably into operational execution.

FUTURE OPPORTUNITIES

Looking ahead, dynamic geofencing capabilities—where virtual boundaries adjust in real time based on inputs such as traffic patterns, weather conditions, or time of day—present compelling opportunities for enhanced personalization and operational efficiency. Deeper integration with loyalty systems and behavioral analytics could enable hyper-personalized experiences, such as rewarding frequent guests or promoting underutilized fulfillment options.

Beyond customer-facing use cases, geofencing also holds potential for internal operational applications, including inventory management, staffing optimization, and workflow orchestration, extending its value across the restaurant ecosystem.

CONCLUSION

Geofencing-enabled field testing serves as a strategic enabler of McDonald's digital innovation agenda. By validating mobile app functionality in real-world environments, it ensures high-quality deployments, accelerates issue detection, and strengthens confidence in digital experiences such as curbside pickup and Ready On Arrival. Through continued investment in this approach, McDonald's is well-positioned to deliver seamless, reliable, and customer-centric digital experiences that scale with the evolving expectations of its global customer base.