

SmartDeal Architecture

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Firestore Schema

- * **Rules** collection contains 'triggerType', 'threshold', and 'enabled' fields.
- * **Deals** collection stores promotions with price, discount and location data.
- * **Analytics** collection logs events with 'dealId', 'userId', 'type', and 'date'.
- * **Notifications** collection keeps notification text and read state per user.

Cloud Functions

- * **evaluateSmartDeals** scores deals via HTTPS callable function.
- * **generateAISmartDealSuggestion** suggests deals based on keywords.
- * **dispatchNotifications** moves approved deals and sends FCM messages.

Interfaces & QR Redemption

The iOS client displays deals and uses a QR scanner to redeem purchases. A React admin dashboard can review pending deals and tune rules. QR codes map to 'purchase' documents and redemption marks them as used in Firestore.