

Product Requirements Document (PRD): Stripe AI Assistant

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Author: [Your Name], Product Manager

Team: Stripe Product Team

Stakeholders: Engineering, Design, Support, xAI Partnership Team

1. Overview

1.1 Product Name

Stripe AI Assistant

1.2 Purpose

The Stripe AI Assistant is a conversational tool embedded in the Stripe Dashboard to empower users (merchants, developers, and support teams) to troubleshoot issues, optimize workflows, and access real-time insights. Positioned in the bottom right corner as a clickable button, it launches a chat interface addressing 10 key use cases derived from feature usage, errors, and support tickets.

1.3 Objectives

- Reduce user friction across Stripe's core features (e.g., PaymentIntent, CheckoutSession).
 - Decrease support ticket volume by 20% through proactive and predictive assistance.
 - Enhance onboarding and feature adoption for 1.5M+ monthly active users.
 - Maintain Stripe's brand of reliability and technical excellence.
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2. Use Cases

The AI Assistant will prioritize the following 10 use cases, based on data analysis:

1. **Proactive Payment Troubleshooting:** Resolve PaymentIntent issues (e.g., "Invalid card number" - 1200 occurrences).
2. **Checkout Session Recovery:** Assist users in restarting expired CheckoutSessions (1.2M MAU).
3. **Billing Error Resolution:** Fix SubscriptionBilling disputes (e.g., duplicate charges, 800K MAU).
4. **Fraud Detection Optimization:** Adjust RadarFraudDetection settings (600K MAU).
5. **Payout Delay Communication:** Provide payout status updates (900K MAU).
6. **Error Code Translation:** Explain errors (e.g., 429, 503) in plain language.

7. **Usage Analytics Insights:** Share personalized stats (e.g., 50M API requests for PaymentIntent).
 8. **Predictive Issue Alerts:** Warn users of potential issues (e.g., 503 spikes in Payouts).
 9. **Guided Feature Onboarding:** Walk users through feature setup (e.g., SubscriptionBilling updates).
 10. **Escalation Triaging:** Escalate complex issues to human agents efficiently.
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3. Design Principles

The chat interface must adhere to these principles:

- **Conversational Clarity:** Deliver concise, actionable responses (e.g., “Re-enter card” vs. lengthy explanations).
 - **Proactive Guidance:** Anticipate needs with suggestions (e.g., “Restart Checkout?”).
 - **Context Retention:** Remember prior interactions within a session (e.g., “You asked about Error 400 earlier”).
 - **Scalability:** Handle high request volumes (e.g., 50M API calls/month) without performance degradation.
 - **Accessibility:** Support both non-technical merchants and technical developers with adjustable tones.
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4. Requirements

4.1 User Interface

- **Placement:** A clickable button labeled “AI Assistant” in the bottom right corner of the Stripe Dashboard.
 - Icon: Speech bubble with a subtle glow effect to draw attention.
 - Behavior: Expands into a resizable chat window (300px wide, 400px tall default) on click.
- **Chat Window Features:**
 - **Input Box:** Text entry with “Send” button or Enter key support.
 - **Quick Replies:** Pre-set options (e.g., “Yes/No,” “Show Code,” “Escalate”) below responses.
 - **Message History:** Scrollable, searchable chat log (e.g., “Show my Radar fix from yesterday”).
 - **Tone Toggle:** Dropdown to switch between “Friendly Merchant” and “Technical Developer” modes.
 - **Close Button:** “X” to collapse back to the button state.

4.2 Functional Requirements

1. Proactive Payment Troubleshooting
 - **Feature:** Auto-detect payment issues; offer inline card input with real-time validation.

- **Example Interaction:** User: "Payment failing." AI: "Likely an invalid card (Error 400). Enter your card here: [Secure Text Box]. I'll check the format."
- 2. Checkout Session Recovery
 - **Feature:** Embed a "Restart Flow" button triggering a new CheckoutSession API call.
 - **Example:** User: "Checkout timed out." AI: "Session expired (Error 500). Click [Restart Checkout] or get a new link."
- 3. Billing Error Resolution
 - **Feature:** Multi-step wizard with numbered prompts for disputes.
 - **Example:** User: "Charged twice." AI: "Step 1: Share charge ID. Step 2: I'll refund if duplicate."
- 4. Fraud Detection Optimization
 - **Feature:** Mini-menu with "Adjust" or "Explain" options for Radar settings.
 - **Example:** User: "Fraud rules block payments." AI: "Relax rule X? Type 'Adjust' or 'Explain.'"
- 5. Payout Delay Communication
 - **Feature:** Status tracker widget showing payout progress.
 - **Example:** User: "Where's my payout?" AI: "[Progress Bar: Processing > Bank > Complete]. Expected in 2 days."
- 6. Error Code Translation
 - **Feature:** Collapsible error details with tooltips.
 - **Example:** User: "What's 429?" AI: "'Rate limit exceeded.' [Expand: 'Wait 5 mins']."
- 7. Usage Analytics Insights
 - **Feature:** Inline charts or downloadable CSV reports.
 - **Example:** User: "PaymentIntent usage?" AI: "50M requests last month. [Bar Chart]. Optimize tips?"
- 8. Predictive Issue Alerts
 - **Feature:** Push notifications in-chat.
 - **Example:** AI: "Alert: Payout 503 spike. Check bank link? Reply 'Check.'"
- 9. Guided Feature Onboarding
 - **Feature:** Tutorial mode with progress dots.
 - **Example:** User: "Set up billing." AI: "1/3: Pick cycle (weekly/monthly). [●○●○●○]"
- 10. Escalation Triaging
 - **Feature:** "Hand Off" button with a resolution timer.
 - **Example:** User: "Not working." AI: "10 mins in. Click [Escalate] for an agent."

4.3 Technical Requirements

- **Integration:** Connects to Stripe's API for real-time data (e.g., payout status, error logs).
- **Scalability:** Supports 1.5M+ MAU with <2-second response time under 50M API request load.
- **Security:** Encrypts card inputs; complies with PCI DSS.
- **Context Engine:** Retains session history for 24 hours or until user logs out.

4.4 Performance Metrics

- **Resolution Time:** Average <15 minutes per query (benchmark: T001).
 - **User Satisfaction:** 4.5/5 rating via post-chat feedback.
 - **Ticket Reduction:** 20% drop in support tickets within 3 months.
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5. User Flow

1. **Launch:** User clicks “AI Assistant” button in bottom right of Dashboard.
 2. **Welcome:** AI greets: “Hi! How can I help with Payments, Checkout, or more today?”
 3. **Interaction:** User types query; AI responds with text, buttons, or widgets per use case.
 4. **Resolution:** Issue resolved, or user clicks “Escalate” for human support.
 5. **Feedback:** “Was this helpful? Rate 1-5” prompt post-chat.
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6. Success Criteria

- **Adoption:** 50% of MAU (750K+) engage within 1 month.
 - **Efficiency:** 80% of queries resolved without escalation.
 - **Retention:** 10% increase in feature usage (e.g., Radar, Subscriptions) due to onboarding.
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7. Risks & Mitigations

- **Risk:** Overloaded AI during peak traffic (e.g., 40M CheckoutSession requests).
 - **Mitigation:** Rate limit feedback (“2-sec delay expected”) and queue system.
 - **Risk:** Misinterpreted queries by non-technical users.
 - **Mitigation:** Default to “Friendly Merchant” tone; refine NLP with ticket data.
 - **Risk:** Security breach via chat inputs.
 - **Mitigation:** End-to-end encryption; no storage of sensitive data post-session.
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8. Timeline

- **Phase 1 (1 Month):** Prototype chat UI and 3 use cases (PaymentIntent, Checkout, Billing).
 - **Phase 2 (2 Months):** Full 10 use cases, API integration, beta with 10K users.
 - **Launch:** July 31, 2025, across all Dashboard users.
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9. Appendix

- **Inspiration:** Built with xAI’s Grok 3; leverages continuous learning from Stripe data.
- **Dependencies:** Requires API access to feature logs, user analytics, and support tickets.