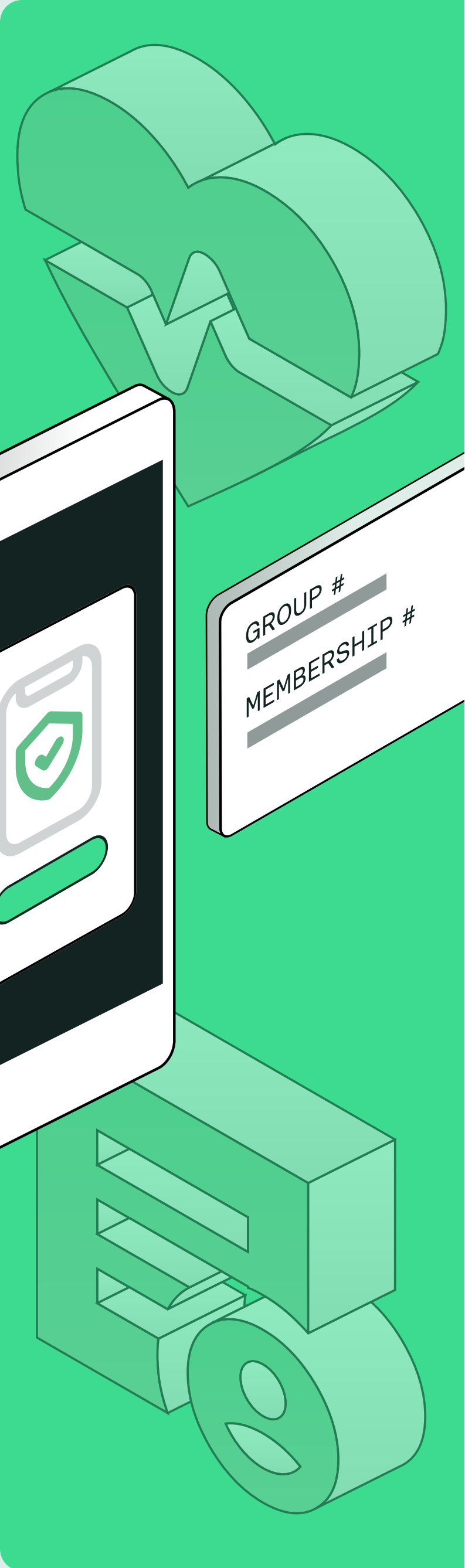


Software Testing Checklist

for Reliable, Secure, and
User-Friendly Healthcare Apps





If somebody opens their healthcare app, it's often during a moment of vulnerability. Whether it's scheduling an urgent appointment, checking test results, or managing a chronic condition, patients are turning to digital platforms in their most anxious moments.

But building a high-quality healthcare app is about as complex as it sounds.

Due to the healthcare industry's heavily regulated nature, provider apps must be built against the highest security and privacy standards. At the same time, the business logic of creating a healthcare app is highly complex and unique compared to other industries, with intricate workflows around patient care, medical records, and regulatory compliance.

Following this checklist helps ensure that they trust your organization and builds confidence with them, so that when it comes time to choose a healthcare plan, they return.

This checklist assists software teams in tackling challenges with tips for testing items like:

- Appointment scheduling
- Patient management
- Medical records access
- Telehealth integration
- Payment processing
- Insurance verification
- Patient data security

Appointment Scheduling
and Patient Management

Medical Records Access
and Telehealth
Integration

Patient Data Security
and HIPAA Compliance

Payment Processing and
Insurance Verification

Cross-Platform Patient
Experience and
Emergency Features

1

Test comprehensively for provider availability and scheduling logic

- ☐ Beyond happy paths, test edge cases to ensure accurate availability displays and booking confirmations.
EXAMPLES
appointment types provider specialties
time zones scheduling constraints
- ☐ Test scenarios across different departments and locations.
EXAMPLES
same-day appointments recurring visits
cancellations rescheduling
- ☐ Validate against provider calendars and hospital management systems to prevent double-booking or missed appointments.

2

Validate real-time integrations with hospital management systems (e.g., EHR, HMS)

- ☐ Verify seamless and accurate integration with Electronic Health Records and Hospital Management Systems that impact appointment scheduling and patient flow.
- ☐ Test for latency and error handling when these systems are unavailable or return unexpected data.
- ☐ Ensure patient information synchronizes correctly between the app and backend healthcare systems.

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3

Secure medical records retrieval and document display

- ☐ Test the entire medical records access process across different record types
- ☐ Focus on the accuracy of data displayed, proper formatting of medical documents, and secure transmission of sensitive health information.
- ☐ Validate that only authorized patients and providers can access specific records, with proper audit trails for all access attempts.

EXAMPLES

- lab results
- imaging
- prescription history
- visit summaries

4

Quality test the telehealth platform integration and video quality

- ☐ If your app integrates with telehealth platforms for virtual consultations
- ☐ Use staging environments when possible to test the complete patient-provider interaction flow.
- ☐ Test for various network conditions, device capabilities, and ensure HIPAA-compliant communication channels.
- ☐ Verify proper handling of session recordings, prescriptions issued during virtual visits, and follow-up care coordination.

VALIDATE

- video/audio quality
- connection stability
- data security during sessions.

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5

Comprehensive PHI (Protected Health Information) handling and access controls

- ☐ Verify that all patient health information is properly encrypted, transmitted securely, and stored according to HIPAA requirements.
- ☐ Test role-based access controls ensuring patients can only view their own data while healthcare providers have appropriate access levels.
- ☐ Validate audit logging for all PHI access, modifications, and data sharing activities.
- ☐ Test various data sharing scenarios, including emergency access and patient consent management.

6

Test for multi-factor authentication and biometric security

- ☐ For features requiring secure access to sensitive health data, ensure multi-factor authentication and biometric login functionality work reliably across devices.
- ☐ Test scenarios where authentication methods fail, are unavailable, or require backup verification methods.
- ☐ Compliance with healthcare data protection regulations is critical – including testing for unauthorized access attempts and automatic session timeouts.

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End-to-end insurance claims and payment processing

- ☐ Thoroughly test insurance verification, co-payment processing, and claims submission through all supported payment methods and insurance providers.
- ☐ Include testing for denied claims, pre-authorization requirements, out-of-network scenarios, and payment plan arrangements.
- ☐ Test integration with major insurance networks and ensure proper eligibility checks and benefits verification handling.

5

Ensure Multi-device consistency with critical health data synchronization

- ☐ Ensure a consistent patient experience and secure data synchronization across different devices (smartphones, tablets) and operating system versions (iOS, Android).
- ☐ Test how the app handles offline access to critical health information and emergency contacts when connectivity is limited. This is essential for delivering reliable healthcare access regardless of the device or network conditions.
- ☐ Test emergency features like medication reminders, critical health alerts, and urgent care access work consistently across all platforms.

Takeaways:

The Sauce Labs Solution

By implementing these specific tips, software testers and engineering leaders in the healthcare sector can achieve continuous quality, leading to more robust, secure, and user-friendly healthcare applications that build lasting patient trust and improve health outcomes.

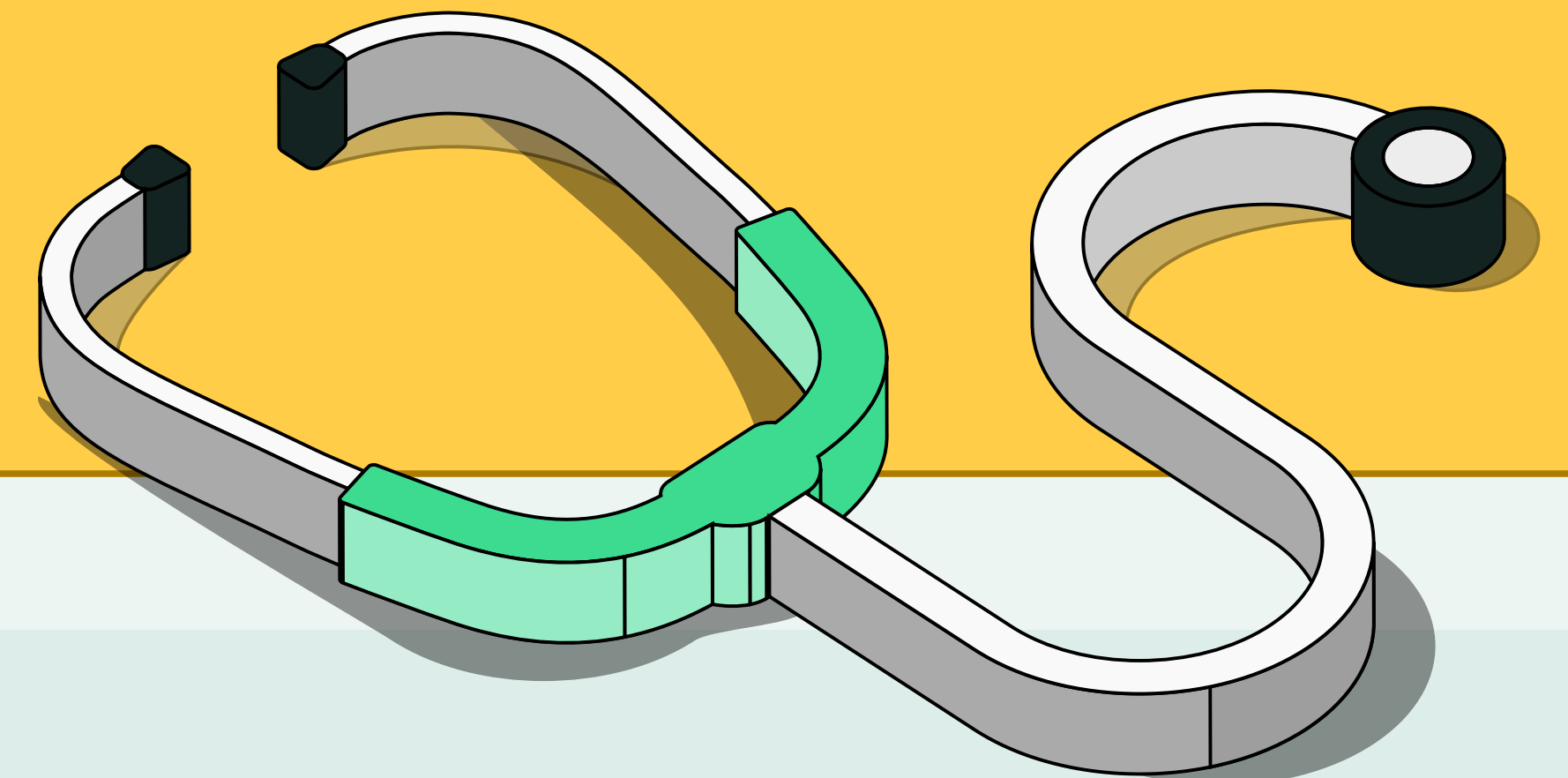
Sauce Labs provides the only unified continuous quality (and enterprise-ready) solution built for large healthcare organizations.

Our Platform for Test is built to handle the massive scale of continuous testing, backed by a best-in-class infrastructure. To give you an idea, The Centers for Medicare and Medicaid Services (CMS) was able to consolidate test infrastructure for web and mobile testing, leading to improved efficiency and scalability.

Healthcare organizations can streamline testing across any framework or toolchain with Sauce Labs, while gaining speed, increasing coverage, and maintaining compliance. By using our advanced testing infrastructure, organizations can see upwards of 217% ROI, and gain unified, intelligent insights for fast resolution. Security and compliance are built into everything we do with SOC 2, Type II, and ISO 27001/27701 certifications, along with secure proxy tunnels (Sauce Connect) and secure global data centers.

With more than 15 years of experience, Sauce Labs has the expertise and technology to ensure your digital experiences run smoothly and securely, every time.

[See Sauce Labs in action](#) →



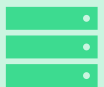
About Sauce Labs

Sauce Labs is the leading cloud-hosted platform for automated testing of web and mobile applications, enabling fast delivery of high-quality software across the development lifecycle. Founded by the creators of Selenium, Sauce Labs has been the testing leader for over 15 years and now runs over 1 billion tests annually. Trusted by Fortune 500 companies like Toyota, Walmart, Verizon, and Fidelity Investments, its scalable, secure platform supports testing across thousands of operating systems, browsers, and devices while meeting the highest compliance standards.

For more information, please visit
saucelabs.com

[See Sauce Labs in action](#)

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