

Cross Platform Testing

Cross-platform testing is **crucial for ensuring software works seamlessly across multiple operating systems, device types, and platforms** (e.g., web, desktop, mobile, IoT). As a **software testing consultancy firm**, offering structured and expert-led **Cross-Platform Testing** helps our clients deliver consistent performance, functionality, and user experience—regardless of the platform their customers use.

Here's how our firm can effectively **perform Cross-Platform Testing** to deliver better quality systems and applications:

Objectives of Cross-Platform Testing

- Ensure **functional consistency** across platforms
 - Validate **UI/UX consistency** on different screens/devices
 - Identify **platform-specific bugs**
 - Test integrations with native features (e.g., camera, GPS, notifications)
 - Ensure performance and responsiveness across OS/hardware variations
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Platforms to Consider

Web-based Applications:

- Windows (Chrome, Firefox, Edge)
- macOS (Safari, Chrome)
- Linux (Firefox, Chromium)

Mobile Applications:

- Android (multiple versions/devices)
- iOS (iPhone, iPad with various iOS versions)

Desktop Applications:

- Windows, macOS, Linux
- Native and hybrid app frameworks (Electron, Qt, etc.)

Others:

- Tablets, Smart TVs, Smartwatches, IoT devices (if relevant)



Cross-Platform Testing Strategy

1. Define Scope & Coverage

- Identify the most used platforms/devices based on client analytics
- Prioritize by usage or risk (e.g., iOS + Safari vs Android + Chrome)
- Define what needs to be tested on each platform: UI, performance, hardware integration, etc.

2. Set Up the Testing Infrastructure

We can use a mix of:

- **Cloud-based device farms:**
 - **BrowserStack, Sauce Labs, LambdaTest, Kobiton, AWS Device Farm**
- **Emulators and simulators** (for early testing)
- **Real devices** (for final verification)

3. Automate Cross-Platform Tests Where Possible

Use tools that support cross-platform automation:

- **Appium** – for mobile apps (iOS + Android)
- **Selenium + WebDriver** – for web across browsers/OS
- **Flutter Driver / Detox / Espresso / XCUITest** – for specific mobile stacks
- **Playwright** – for web + mobile emulation
- **TestComplete** – for web, desktop, and mobile testing

Run **parallel tests** to save time and increase coverage.

4. Perform Manual Exploratory Testing

Even with automation, manual testing is essential for:

- **Visual checks** (fonts, layout, alignment)
- **Touch/gesture behavior** on mobile



- **Device orientation/responsiveness**
 - **Interruption handling** (calls, notifications)
 - **Hardware integration** (GPS, camera, sensors)
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5. Security and Compliance Testing Across Platforms

- Test for **platform-specific vulnerabilities**
 - Validate **data handling, encryption, and privacy settings** on mobile vs web
 - Run **platform-specific permission and access control tests**
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6. Performance Testing Across Platforms

- Monitor **app load time, memory usage, battery consumption, and responsiveness** on different OS/hardware
 - Use tools like:
 - **Firebase Performance Monitoring (Android/iOS)**
 - **Xcode Instruments (iOS)**
 - **Android Profiler**
 - **Lighthouse/WebPageTest (web)**
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7. Reporting and Platform-Specific Defect Logging

Provide clear, platform-tagged bug reports:

| Platform OS/Device | | Bug Description | Screenshot Priority | |
|--------------------|--------------------------------|-------------------------------|---------------------|--------|
| Android | Samsung Galaxy A52, Android 12 | App crashes on GPS access | Attached | High |
| Web | Windows 10, Firefox 120 | Button misaligned on checkout | Attached | Medium |

Value Proposition for our Clients



| Capability | Value Delivered |
|---|--|
|  Broad Coverage | App works reliably for more users |
|  Platform Insights | Find and fix environment-specific bugs |
|  Reduced Risk | Avoid negative app store reviews or user drop-off |
|  Scalable Frameworks | Faster regression cycles and test reuse |
| Compliance & UX Assurance | Apps meet modern platform standards and expectations |

Bonus: Advanced Testing our Can Offer

- **Visual Regression Testing** using Percy or Applitools
- **Accessibility Testing** across platforms
- **Localization Testing** for multi-region apps
- **AI-based Exploratory Testing** for edge-case discovery