MOBILE TESTING REFERENCE GUIDE

If you develop mobile applications, you already understand the why of software testing. You know that testing ensures your applications will perform as expected in production and deliver a consistent experience to end users that will earn you 5-star ratings in app stores. This reference guide offers comprehensive guidance for planning a mobile application testing strategy.

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DEVICES AND OPERATING SYSTEMS TO TARGET FOR MOBILE APPLICATION TESTING

If you develop mobile applications, you already understand the why of software testing. You know that testing ensures your applications will perform as expected in production and deliver a consistent experience to end users that will earn you 5-star ratings in app stores.

Yet the how of mobile application testing can be more complicated. While an automated testing solution like Sauce Labs handles many of the tedious tasks for you, you still have to decide which types of devices and operating system versions to test across. That choice will be based on several factors, including:

- The geographic locations of your users.

- The industry in which you operate.

- The size of your organization.

- The gender, education level, income range and other personal characteristics of your users.

Using this information to determine which types of devices and operating systems to prioritize for the testing market is essential for making optimal use of your testing resources.

That's why we've created this reference for you. It offers comprehensive guidance for planning a mobile application testing strategy. We have collected and organized device and OS data based on popularity with consumers in North America, EMEA and the rest of the world based on our analysis of mobile usage trends from several sources.

While we can't tell you exactly which hardware and software platforms to test (that's of course a decision that varies from organization to organization), we can help you to clarify the biggest unknowns and get started in designing a mobile application testing strategy that meets all of your needs.

MOBILE DEVICE AND OPERATING SYSTEM USAGE TRENDS

The following are recommendations on mobile device hardware and software trends in today's market. The information is based on research and data collection from several sources, including Sauce Labs customer testing and anonymized user data, collected in collaboration with external vendors.

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RECOMMENDATIONS BY BUSINESS SIZE

Your test strategy should reflect not only market trends, but also the size of your business and the scale of your testing resources.
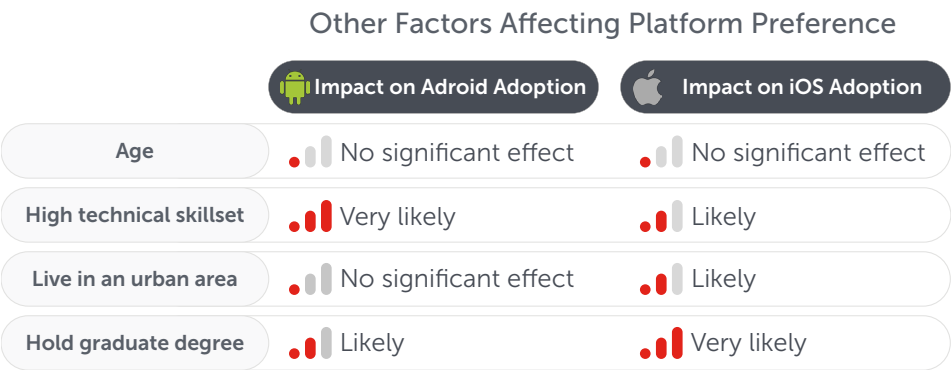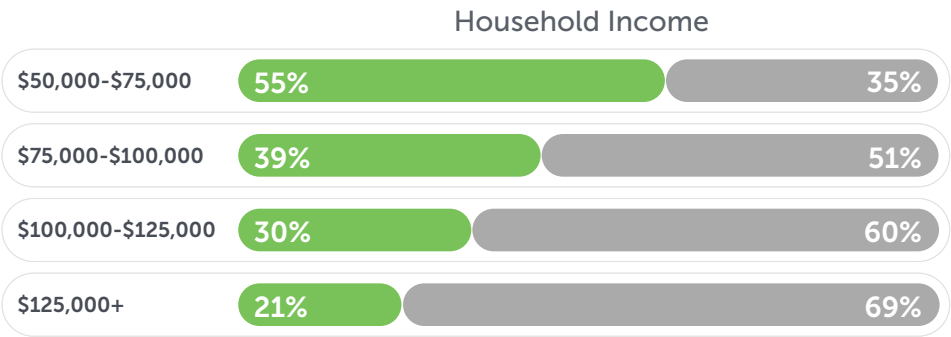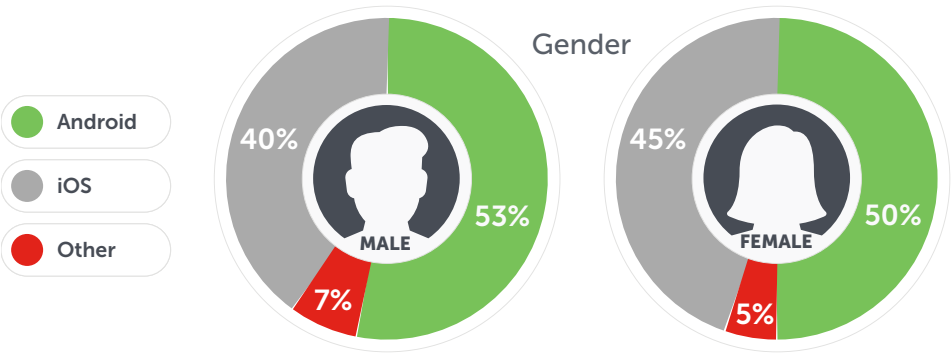
We recommend that small and medium-sized businesses focus on testing for the devices and OS versions listed in the top 10 chart below. Larger businesses should focus on those in the top 25 chart.

Startups
Employees: <100

	Device	OS Version
1	iPhone 6	10.3.3
2	iPhone 5s	10.3.3
3	Samsung Galaxy S6	7.0
4	iPad 2	9.3.5
5	iPhone 6 Plus	10.3.3

SMBs
Employees: 100-500

	Device	OS Version
1	iPhone 6	10.3.3
2	iPhone 5s	10.3.3
3	Samsung Galaxy S6	7.0
4	iPad 2	9.3.5
5	iPhone 6 Plus	10.3.3
6	iPhone 5	10.3.3
7	Samsung Galaxy S5	6.0.1
8	Samsung Galaxy S7 Edge	7.0
9	Samsung Galaxy S7	7.0
10	Samsung Galaxy Tab S4	5.0.2

Large Businesses & Enterprises
Employees: 500+

	Device	OS Version
1	iPhone 6	10.3.3
2	iPhone 5s	10.3.3
3	Samsung Galaxy S6	7.0
4	iPad 2	9.3.5
5	iPhone 6 Plus	10.3.3
6	iPhone 5	10.3.3
7	Samsung Galaxy S5	6.0.1
8	Samsung Galaxy S7 Edge	7.0
9	Samsung Galaxy S7	7.0
10	Samsung Galaxy Tab S4	5.0.2
11	iPhone 7	10.3.3
12	iPad 3	9.3.5
13	Samsung Galaxy S6 Edge	7.0
14	Samsung Galaxy S4 Mini	4.4.4
15	Samsung Galaxy S4	5.0.1
16	Sony Xperia Z3	6.0
17	Huawei P8	5.0.2
18	iPhone 7 Plus	10.3.3
19	Google Nexus 5X	7.1.2
20	Samsung Galaxy S3	4.4
21	Samsung Galaxy Tab S2	7.0
22	HTC One M7	5.0.2
23	Samsung Galaxy S3 Mini	7.1.2
24	Google Nexus 6P	7.1.2
25	Samsung Galaxy J5	6.0.1

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Gender

- **Android**
- **iOS**
- **Other**

MALE
40%
53%
7%

FEMALE
45%
50%
5%

Household Income

$50,000-$75,000	55%	35%
$75,000-$100,000	39%	51%
$100,000-$125,000	30%	60%
$125,000+	21%	69%

Other Factors Affecting Platform Preference

	Impact on Adroid Adoption	Impact on iOS Adoption
Age	No significant effect	No significant effect
High technical skillset	Very likely	Likely
Live in an urban area	No significant effect	Likely
Hold graduate degree	Likely	Very likely

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The following charts display recommendations for the leading mobile device vendors in specific countries and regions.

Top Device Vendors by Region

		Vendor	Market Share*	Trend
United States	1	Apple	50%	⬇
	2	Samsung	25%	⬇
	3	LG	8%	⬆
	4	Motorola	3%	⚫
	5	ZTE	2%	⬆
China	1	Apple	30%	⬆
	2	Huawei	17%	⬆
	3	Xiaomi	10%	⬆
	4	Oppo	10%	⬆
	5	BBK	7%	⬆
India	1	Samsung	25%	⬇
	2	Xiaomi	8%	⬆
	3	Lenovo	7%	⬇
	4	Nokia	6%	⬇
	5	Oppo	5%	⬆
Europe	1	Samsung	35%	⬇
	2	Apple	28%	⬆
	3	Huawei	10%	⬆
	4	LG	5%	⚫
	5	Sony Ericsson	4%	⬇
Africa	1	Samsung	30%	⬆
	2	Huawei	9%	⬆
	3	Nokia	6%	⬇
	4	Tecno	5%	⬆
	5	Infinix	4%	⬆
South America	1	Samsung	45%	⬆
	2	Motorola	15%	⬇
	3	LG	10%	⚫
	4	Apple	9%	⬆
	5	Huawei	7%	⚫

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ANDROID DEVICE RANKINGS

The following are recommendations for Android devices across all regions.

android Top 10 Smartphones

1	Samsung Galaxy S6	SAMSUNG
2	Samsung Galaxy S5	SAMSUNG
3	Samsung Xperia Z3	SONY
4	Samsung Galaxy S6 Edge	SAMSUNG
5	Samsung Galaxy S7	SAMSUNG
6	Samsung Galaxy S4 Mini	SAMSUNG
7	Samsung Galaxy S4	SAMSUNG
8	Samsung Galaxy S7 Edge	SAMSUNG
9	Huawei P8	HUAWEI
10	HTC One	HTC

android Top 10 Vendors

Smartphones		Tablets
SAMSUNG	1	amazon kindle fire
LG	2	SAMSUNG
motorola a Lenovo company	3	廣達電腦 Quanta Computer
HTC	4	ASUS
ZTE中兴	5	Lenovo
SONY	6	acer
KYOCERA	7	LG
HUAWEI	8	SONY
BLU BOLD LIKE US	9	motorola a Lenovo company
CASIO	10	BARNES&NOBLE

IOS DEVICE RANKINGS

The following are recommendations for iOS devices (including iPhones as well as iPads) across all regions.

iOS: Top 10 Devices

#	Device		#	Device	
1	iPhone 6	10	2	iPhone 5s	10
3	iPhone 6 Plus	10	4	iPad 2	9
5	iPhone 5	10	6	iPhone 6s	10
7	iPhone 5c	10	8	iPad Air 2	10
9	iPad Mini	9	10	iPhone 7	10
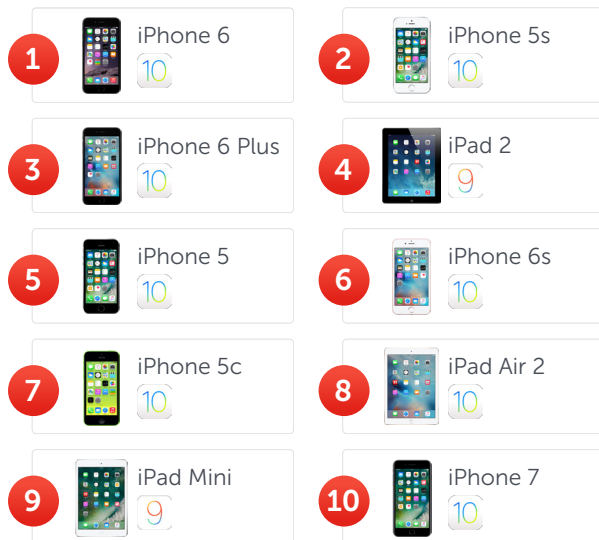
iPads: Top 10 Device Variants

1	2	3
iPad Air 2	iPad Air	iPad 2
4	5	6
iPad Pro	iPad 4	iPad 3
7	8	9
iPad Mini 2	iPad Mini	iPad Mini 4
10		
iPad Mini 3		

android Top OS Versions

	7x	6x	4x
1	7.0	6.0.1	4.1.2
2	7.1.1	6.0	4.2.2
3	7.1.2	6.1	4.4.2
4	7.1	–	4.3
5	–	–	4.4.4
6	–	–	4.1.1
7	–	–	4.0.4
8	–	–	4.2.1
9	–	–	4.0.3
10	–	–	4.4.3

iOS Top OS Versions

	iOS 10	iOS 9
1	10.2.1	9.3.5
2	10.2	9.3.2
3	10.1.1	9.3.4
4	10.3.3	9.2.1
5	10.0.2	9.3.3
6	10.0.1	9.3.1
7	10.3	9.2
8	10.1	9.1
9	10.0.3	9.0.2
10	10.0	9.3

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CONCLUSION

The best approach to selecting the right devices and operating systems to test your mobile app across is to know your users and understand the latest usage trends. These trends change constantly as new devices are released and OS versions are updated. The primary goal is to ensure that maintenance of physical devices and lab management is not time consuming and costly. A sound mobile strategy includes real devices, emulators/simulators, and the ability to meet the needs of mobile app testing for the user base and demographics.

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ABOUT SAUCE LABS

Sauce Labs ensures the world's leading apps and websites work flawlessly on every browser, OS and device. Its award-winning Continuous Testing Cloud provides development and quality teams with instant access to the test coverage, scalability, and analytics they need to deliver a flawless digital experience. Sauce Labs is a privately held company funded by Toba Capital, Salesforce Ventures, Centerview Capital Technology, IVP and Adams Street Partners. For more information, please visit saucelabs.com.

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A brief history of mobile app testing.

BEFORE SAUCE LABS
Devices. Delays. Despair.

AFTER SAUCE LABS
Automated. Accelerated. Awesome.

Find out how Sauce Labs
can accelerate your testing
to the speed of awesome.

For a demo, please visit saucelabs.com/demo
Email sales@saucelabs.com or call (855) 677-0011 to learn more.

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Testing at the speed of awesome.