

# Testing suites for web applications

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- When possible, it's always better to use a physical device with the specifications needed.
- If the appropriate physical device isn't available, use CrossBrowserTesting or the virtual PCs on the test machine in the ASG wing.
- Not all combinations of devices, operating systems, and browser may be available. For instance, there will be cases where the two most recent versions of browsers like Chrome or Firefox aren't available because the versions are updated automatically. In those cases, come as close as possible to the specification and note any missing specs in the testing results.
- Versions of some browsers, such as Chrome and Firefox, are difficult to track because they update so frequently. Instead of looking for a specific browser version number, download the most recent one if you have access to the physical device or use the highest number (or two) you can find in CrossBrowserTesting at the time testing is needed. The table below will identify specific browsers and operating systems that we know and don't change often, such as the latest versions of Windows, iOS, and IE. Otherwise, we'll only suggest using the most recent ones available for our testing devices and tools.

<b>Internal Minimum</b>				
For testing layout display and look/feel on applications to be used only by internal legislative staff on legislative machines. This is a brief look at the pages to make sure they display as expected, the proper elements display and they are in the correct locations. This testing scenario would likely be used relatively early in the development process.				
<i>Purpose</i>	<i>Machine/Device</i>	<i>Browser</i>	<i>Browser Version</i>	<i>OS</i>
Look and feel	Windows Desktop	IE	Current Legislature version: 11	Current Leg. versions: Win 7 Win 8.*
	Windows Surface	IE	Current Legislature version: 11	Current Leg. version: Win 8.*
<b>Internal Full</b>				
The internal minimum plus functionality testing. This would use the same devices and operating systems as the internal minimum, but would likely require use of actual devices or virtual PCs to adequately test functionality and behavior of buttons, links, menus, while ensuring the proper content is displayed based on user input.				
<i>Purpose</i>	<i>Machine/Device</i>	<i>Browser</i>	<i>Browser Version</i>	<i>OS</i>
Look and feel, Functionality, Content	Windows Desktop	IE	Current Legislature version: 11	Current Leg. versions: Win 7 Win 8.*
	Windows Surface	IE	Current Legislature version: 11	Current Leg. version: Win 8.*

**External Minimum**

For initial, quick testing of items that need a minimal review of how the layout displays on the latest basic OS, browser, device combinations. This group will likely be used with early versions of applications to identify more obvious problems that would likely be present on a wide variety of devices if they are found in this suite. This includes desktops and phones, but not tablets.

<i>Purpose</i>	<i>Machine/Device</i>	<i>Browser</i>	<i>Browser Version</i>	<i>OS</i>
Look and feel	Windows Desktop	IE	Latest version: 11 Just released to the public: Edge for Windows 10	Current Leg. versions: Win 7 (some state agencies still use it) Win 8.*
	Mac desktop	Safari	Latest version: 8	Latest version: 10.10 Yosemite 10.* El Capitan (soon)
	Android Phone	Default or Chrome	Latest version available for the device	Latest version: 5.0 Lollipop
	iPhone	Safari	The version that came with the OS on the device	Latest version: iOS 8 iOS 9 (soon)

**External Middle**

For testing items that may require some display testing and/or some functionality testing. This will be used when more than a cursory review is needed, but extensive testing is not yet required. This level of testing is what would mostly likely be required at various times throughout the development process.

<i>Purpose</i>	<i>Machine/Device</i>	<i>Browser</i>	<i>Browser Version</i>	<i>OS</i>
Look and feel, General functionality	Windows Desktop	IE	Latest version AND current Legislature version, if different: Edge and 11	Latest version: Win 8.* (Be aware of Win 7 as some state agencies still use it)
	Windows Desktop	Chrome	Latest version	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Windows Desktop	Firefox	Latest version	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Windows Surface	IE	Latest version AND current Legislature version, if different: Edge and 11	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Windows Surface	Chrome	Latest version	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Mac Desktop	Safari	Latest version: 8	Latest version: 10.9 Mavericks 10.10 Yosemite (10.11 El Capitan coming soon)
	Mac Desktop	Chrome	Latest version	Latest version: 10.9 Mavericks 10.10 Yosemite (10.11 El Capitan coming soon)
	Mac Desktop	Firefox	Latest version	Latest version: 10.9 Mavericks 10.10 Yosemite

				(10.11 El Capitan coming soon)
	Large Android Tablet (default to Galaxy)	Chrome	Latest version	Latest version
	Android Smartphone	Chrome	Latest version	Latest version
	iPad	Safari	The version that came with the OS on the device	Latest version: iOS 8 (iOS 9 coming soon)
	iPhone	Safari	The version that came with the OS on the device	Latest version: iOS 8 (iOS 9 coming soon)

**External Full**

For testing items that require full look and feel as well as functionality testing on the widest variety of configurations we can reasonably manage. This is extensive, fine-grained testing to find smaller or less obvious problems that might be specific to a particular browser, OS, device combinations. This would typically be used for nearly production-ready applications to remove any blemishes and apply the final polish.

<i>Purpose</i>	<i>Machine/Device</i>	<i>Browser</i>	<i>Browser Version</i>	<i>OS Version</i>
Look and feel, full functionality, content	Windows Desktop	IE	Latest two versions: Edge, 11. However, include versions 9 and 10 since some state agencies still use them	Latest two versions: Win 7, Win 8.* Win 10 is released, but not yet widely adopted
	Windows Desktop	Chrome	Latest two versions	Latest two versions: Win 7, Win 8.* Win 10 is released, but not yet widely adopted
	Windows Desktop	Firefox	Latest two versions	Latest two versions: Win 7, Win 8.*
	Mac Desktop	Safari	Latest version (8.x)	Latest two versions: 10.9 Mavericks 10.10 Yosemite (10.11 El Capitan coming soon)
	Mac Desktop	Chrome	Latest two versions	Latest two versions: 10.9 Mavericks 10.10 Yosemite (10.11 El Capitan coming soon)
	Mac Desktop	Firefox	Latest two versions	Latest two versions: 10.9 Mavericks 10.10 Yosemite (10.11 El Capitan coming soon)
	Windows Surface	IE	Latest two versions: Edge, 11	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Windows Surface	Chrome	Latest two versions	Latest version: Win 8.* Win 10 is released, but not yet widely adopted
	Windows Surface	Firefox	Latest two versions	Latest version: Win 8.*

				Win 10 is released, but not yet widely adopted
iPad (latest version, if possible) <i>Note: If not possible to test with latest device, using a non-retina screen (on older models) shouldn't matter to the placement or behavior of elements on the screen, only how sharp they are.</i>	Safari	The version that came with the OS on the device		Latest two versions: iOS 7, iOS 8 (iOS 9 coming soon)
iPad (latest version, if possible)	Chrome	Latest two versions available for the OS of the device		Latest two versions: iOS 7, iOS 8 (iOS 9 coming soon)
Large Android Tablet (default to Galaxy)	Default	The version that came with the OS on the device		Latest two versions: 5.0 Lollipop 4.4 KitKat
Large Android Tablet (default to Galaxy)	Chrome	Latest two versions		Latest two versions: 5.0 Lollipop 4.4 KitKat
Small Android Tablet (default to Nexus)	Default	The version that came with the OS on the device		Latest two versions: 5.0 Lollipop 4.4 KitKat
Small Android Tablet (default to Nexus)	Chrome	Latest two versions		Latest two versions: 5.0 Lollipop 4.4 KitKat
iPhone (latest two models)	Safari	The version that came with the OS on the device		Two most recent versions: iOS 7, iOS 8 (iOS 9 coming soon)
iPhone (latest two models)	Chrome	Latest version available for the device		Two most recent versions: iOS 7, iOS 8 (iOS 9 coming soon)
Android phone (default to Galaxy)	Default	The version that came with the OS on the device		Latest two versions: 5.0 Lollipop 4.4 KitKat
Android phone (default to Galaxy)	Chrome	Latest two versions		Latest two versions: 5.0 Lollipop 4.4 KitKat