

UNIVERSITY OF
WATERLOO



GRADED BROWSER SUPPORT

VERSION 1.6 OCTOBER 2018

EXECUTIVE SUMMARY

Support does not mean that everyone gets exactly the same thing

- Instead, every user should be able to consume as much as their browser can technically support

Grades give us a framework to prioritize our support

Scope includes all WCMS websites

A-Grade browsers are:

- Chrome (latest stable desktop and mobile)
- Edge (latest stable desktop and mobile)
- Firefox (latest stable desktop and mobile, LTS build, UWaterloo distributed)
- Safari (latest stable desktop and mobile)

PURPOSE

1

To provide a broader and more reasonable definition of “support”

2

Introduce the notion of “grades” of support

3

To document our expectations of browser support for the University

WHAT DOES “SUPPORT” MEAN?

Does not mean that everyone gets the same thing

Requiring the same experience for all creates an artificial barrier to participation

Availability and access to content should be our priority

Every user should be able to consume as much as their environment can support

Progressive enhancement

PROGRESSIVE ENHANCEMENT V. GRACEFUL DEGRADATION

Both are approaches to the engineering of “fault tolerance”

GD prioritizes presentation and permits less widely-used browsers to receive less

PE puts content at the center, allows most browsers to receive more

PE is a healthier and more forward-looking approach and a core concept of GBS

WHAT ARE GRADES OF SUPPORT?

While an inclusive definition of browser support is necessary, the support continuum does present design, development and testing challenges

If anything goes, how do we know when the experience is broken?

To address this question and restore sense of order to the system we define “grades” of support

SCOPE

Inclusions

WCMS websites

- UWaterloo.ca homepage
- Waterloo stories
- FDSU websites
- Open Scholar
- Drupal authoring interface

Portal (as of v2.0)

Exclusions

Quest

Learn

WaterlooWorks

MyHRInfo

DEFINITION

| | X-GRADE | A-GRADE | B-GRADE | C-GRADE |
|-----------------|----------------------------------|-----------------------|---------------------|--------------------|
| Functional site | Unknown | Full | Enhanced | Basic to unknown |
| Usage | Rare | Common | Rare | Rare |
| Age | Modern | Modern | Modern (outdated) | Antiquated |
| Standards | Capable | Capable | Mostly capable | Incapable |
| CSS3 | Full | Full | Partial to full | Limited to partial |
| Support by team | None | Full | Limited | None |
| Test by team | No | Full (before release) | Not automatic | No |
| Bug fix by team | Extremely limited (see slide 10) | Yes (ASAP) | Yes (at some point) | No |

GBS CHART

| VENDOR | X-GRADE | A-GRADE | B-GRADE | C-GRADE |
|------------|------------------------------------|---|---|---|
| Apple | Safari Technology Preview | Safari [†] Mobile Safari ^{†#} iOS 11, 12 | Safari 10.x Mobile Safari [#] iOS 10 | Safari 8.x and earlier Mobile Safari [#] iOS 9 |
| Blackberry | — | — | 10.x | 7.x and earlier |
| Google | Chrome Canary | Chrome [†] Desktop/mobile/tablet | — | Android 4.x and earlier Android Webview |
| Mozilla | Firefox Nightly, Firefox Developer | Firefox [†] Desktop/mobile/tablet, LTS build, UWaterloo distributed | — | — |
| Microsoft | Edge on Windows Insider Preview | Edge [†] | IE 11.0 Desktop | IE 10.0 and earlier Desktop |
| Other | Nightly Webkit builds | — | — | Opera, Opera Mini, Maxthon, UC Browser, and more |

[†] Latest stable version [#] Mobile Safari versions are ambiguous, industry tends to relate to iOS versions

REQUIREMENT LEVELS

| X-GRADE | A-GRADE | B-GRADE | C-GRADE |
|--|--|--|---|
| No coding to specifically target X-grade browsers except for new standards-compliance or extreme circumstances | Must work without hacks (browser detection, reliance on parsing bugs) or shims; should work without JavaScript when possible; cannot require Flash | Can use shims, which may require JavaScript; cannot require Flash. | Can use shims, but may be untested; can require JavaScript for certain functions; cannot require Flash. |

REVISIONS

Added

- Apple
- Mobile Safari iOS 11, 12
- Microsoft
- Edge on Windows Insider Preview

Removed

- Apple
- Safari 8.x
 - Mobile Safari iOS 8

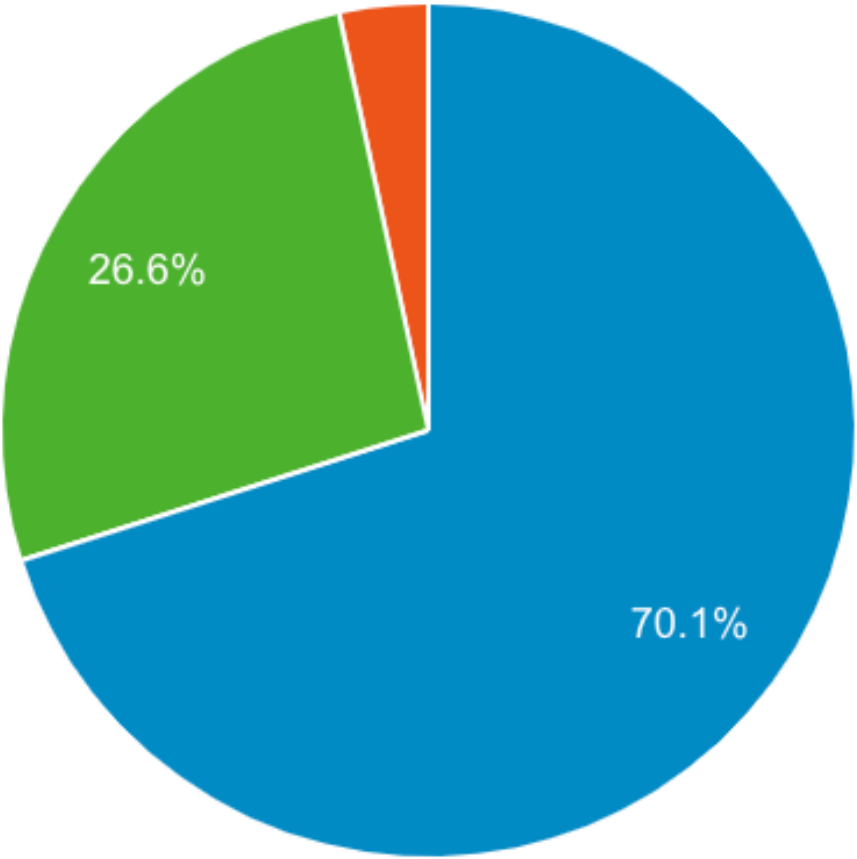
Moved

- Apple
- Safari 9.x from B to C
 - Mobile Safari iOS 10 from A to B
 - Mobile Safari iOS 9 from B to C
- Blackberry Browser
- 10.x from A to B






ANALYTICS

September 1, 2017 – August 31, 2018





DEVICE OVERVIEW

| <input type="checkbox"/> | Device Category | Sessions | Sessions | Contribution to total: |
|--------------------------|-------------------------|--|--|--|
| | | 23,453,379 % of Total: 100.00% (23,453,379) | 23,453,379 % of Total: 100.00% (23,453,379) | |
| <input type="checkbox"/> | 1. desktop | 16,436,943 | 70.08% |  |
| <input type="checkbox"/> | 2. mobile | 6,228,395 | 26.56% | |
| <input type="checkbox"/> | 3. tablet | 788,041 | 3.36% | |

OPERATING SYSTEM + BROWSER

| | Operating System | Browser  | Sessions   | Sessions   |
|-----|------------------|---|--|--|
| | | | 23,453,379 % of Total: 100.00% (23,453,379) | 23,453,379 % of Total: 100.00% (23,453,379) |
| 1. | Windows | Chrome | 7,760,027 | <div><div></div></div> 33.09% |
| 2. | iOS | Safari | 3,283,624 | <div><div></div></div> 14.00% |
| 3. | Macintosh | Chrome | 2,436,424 | <div><div></div></div> 10.39% |
| 4. | Android | Chrome | 2,298,363 | <div><div></div></div> 9.80% |
| 5. | Macintosh | Safari | 1,827,806 | <div><div></div></div> 7.79% |
| 6. | Windows | Internet Explorer | 1,380,557 | <div><div></div></div> 5.89% |
| 7. | Windows | Firefox | 1,264,454 | <div><div></div></div> 5.39% |
| 8. | Windows | Edge | 713,942 | <div><div></div></div> 3.04% |
| 9. | Chrome OS | Chrome | 504,663 | <div><div></div></div> 2.15% |
| 10. | iOS | Chrome | 353,787 | <div><div></div></div> 1.51% |





BROWSER + DEVICE CATEGORY

| | Browser | Device Category  | Sessions   | Sessions  |
|-----|-------------------|---|--|--|
| | | | 23,453,050 % of Total: 100.00% (23,453,379) | 23,453,050 % of Total: 100.00% (23,453,379) |
| 1. | Chrome | desktop | 10,581,538 | <div><div></div></div> 45.12% |
| 2. | Safari | mobile | 2,873,532 | <div><div></div></div> 12.25% |
| 3. | Chrome | mobile | 2,460,175 | <div><div></div></div> 10.49% |
| 4. | Safari | desktop | 1,853,740 | <div><div></div></div> 7.90% |
| 5. | Firefox | desktop | 1,659,393 | <div><div></div></div> 7.08% |
| 6. | Internet Explorer | desktop | 1,456,966 | <div><div></div></div> 6.21% |
| 7. | Edge | desktop | 739,100 | <div><div></div></div> 3.15% |
| 8. | Safari | tablet | 427,544 | <div><div></div></div> 1.82% |
| 9. | Samsung Internet | mobile | 229,063 | <div><div></div></div> 0.98% |
| 10. | Safari (in-app) | mobile | 223,708 | <div><div></div></div> 0.95% |

SCREEN RESOLUTION

| | Screen Resolution | Sessions | Sessions |
|-----|-------------------|--|--|
| | | 23,453,379 % of Total: 100.00% (23,453,379) | 23,453,379 % of Total: 100.00% (23,453,379) |
| 1. | 1920x1080 | 3,398,386 | <div></div> 14.49% |
| 2. | 1366x768 | 3,190,559 | <div></div> 13.60% |
| 3. | 1440x900 | 2,327,936 | <div></div> 9.93% |
| 4. | 375x667 | 1,919,771 | <div></div> 8.19% |
| 5. | 360x640 | 1,793,378 | <div></div> 7.65% |
| 6. | 1280x800 | 1,596,267 | <div></div> 6.81% |
| 7. | 1536x864 | 1,194,417 | <div></div> 5.09% |
| 8. | 1280x720 | 877,933 | <div></div> 3.74% |
| 9. | 1680x1050 | 679,595 | <div></div> 2.90% |
| 10. | 320x568 | 653,563 | <div></div> 2.79% |

MOBILE DEVICE + BROWSER

| | Mobile Device Info | Browser  | Sessions   | Sessions  |
|-----|-----------------------------|---|--|--|
| | | | 7,036,624 % of Total: 30.00% (23,453,379) | 7,036,624 % of Total: 30.00% (23,453,379) |
| 1. | Apple iPhone | Safari | 2,858,640 | <div><div></div></div> 40.63% |
| 2. | Apple iPad | Safari | 427,544 | <div><div></div></div> 6.08% |
| 3. | Apple iPhone | Chrome | 306,013 | <div><div></div></div> 4.35% |
| 4. | (not set) | Chrome | 100,861 | <div><div></div></div> 1.43% |
| 5. | Samsung SM-G930W8 Galaxy S7 | Chrome | 92,781 | <div><div></div></div> 1.32% |
| 6. | (not set) | Opera Mini | 90,056 | <div><div></div></div> 1.28% |
| 7. | Apple iPhone | Safari (in-app) | 83,996 | <div><div></div></div> 1.19% |
| 8. | Acer A1-850 Iconia | Chrome | 79,909 | <div><div></div></div> 1.14% |
| 9. | LG H831 G5 | Chrome | 72,205 | <div><div></div></div> 1.03% |
| 10. | Microsoft Windows RT Tablet | Internet Explorer | 69,151 | <div><div></div></div> 0.98% |

MOBILE DEVICE OPERATING SYSTEM

| | Operating System | Sessions | Sessions |
|-----|------------------|--|--|
| | | 7,036,367 % of Total: 30.00% (23,453,379) | 7,036,367 % of Total: 30.00% (23,453,379) |
| 1. | iOS | 3,914,041 | <div></div> 55.63% |
| 2. | Android | 2,986,325 | <div></div> 42.44% |
| 3. | Windows | 89,117 | <div></div> 1.27% |
| 4. | BlackBerry | 25,039 | <div></div> 0.36% |
| 5. | (not set) | 14,422 | <div></div> 0.20% |
| 6. | Windows Phone | 4,792 | <div></div> 0.07% |
| 7. | Tizen | 1,738 | <div></div> 0.02% |
| 8. | Samsung | 705 | <div></div> 0.01% |
| 9. | Nokia | 94 | <div></div> 0.00% |
| 10. | Firefox OS | 47 | <div></div> 0.00% |

APPENDIX

APPENDIX A: SPECIAL CONSIDERATIONS

| BROWSER | ISSUE | OUR SOLUTION |
|------------------|---|---|
| IE 8,0 and below | No support for media queries | JS must be enabled for RWD experience |
| IE 8,0 and below | No support for HTML5 doctype | JS must be enabled (shim) reference: http://www.paulund.co.uk/turn-on-html5-in-ie8-or-lower |
| IE 8.0 | Incomplete support for :before and :after (http://css-tricks.com/browser-support-pseudo-elements/) | Careful coding; shims may be available |
| IE 7.0 and below | No support for :before and :after (http://css-tricks.com/browser-support-pseudo-elements/) | Careful coding; shims may be available |
| Any | To be determined (http://caniuse.com) | Careful coding; shims may be available |
| IE 8,0 and below | No support for SVG | Shim or alternative content |
| IE 7.0, 8.0 | Issues with transparent PNGs and opacity | Add filter to CSS for IE7-8, see: http://www.jacklmoore.com/notes/ie-transparency-problems/ |

APPENDIX B: AUTHORIZING INTERFACE REQUIREMENTS

Much stricter requirements

- Only A-Grade are supported, with the exception of Edge, which is unsupported
- Some aspects may require JavaScript

Creation of certain types of content is prohibited

- E.g. CSS, JavaScript, iFrames

APPENDIX C: STANDARDS AND RESTRICTIONS

Support is only meant for non-special instances of browsers (E.g. IE in compatibility mode is not supported)

All system-generated code and, as much as possible, all user-entered information must meet accessibility standards (<https://uwaterloo.ca/web-resources/resources/accessibility>) and use semantic markup

Videos and sound should never automatically begin playing

Any pop-ups or “lightbox” must require a click (or keyboard equivalent) to activate

APPENDIX C: STANDARDS AND RESTRICTIONS (CONTINUED)

Primary site navigation must never lead directly off-site

Users must always have a way to navigate within the site

No “breaking the back button”

Intro/clickthrough pages are prohibited