Report on Wikipedia Portal Visitors

A Look At Session Lengths by OS and Browser

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Executive Summary

This report takes a further step from the previous one to investigate the difference between OS and browsers. While most sessions are within 1 min, some os/browsers tend to take longer. In the mean time, mobile devices have a longer session length, and take longer to first click through.

Data

The event logging (EL) data was extracted from the database using the script data.R and refined into sessions using refine.R.

Throughout the report "session length" is calculated as the arithmetic difference between the last recorded event and the first recorded event from a user, uniquely identified by a combination of: session ID, user agent, and language preferences. These are used in tandem to correct for possible session ID clashes.

The user agents are parsed by ua-parser. The device are parsed wrongly, so here we only analyze os and browser. Additionally, if the os of a session is Android, iOS, Windows Phone or BlackBerry OS, we tag it as a mobile session.

Results

Distribution of session lengths by OS
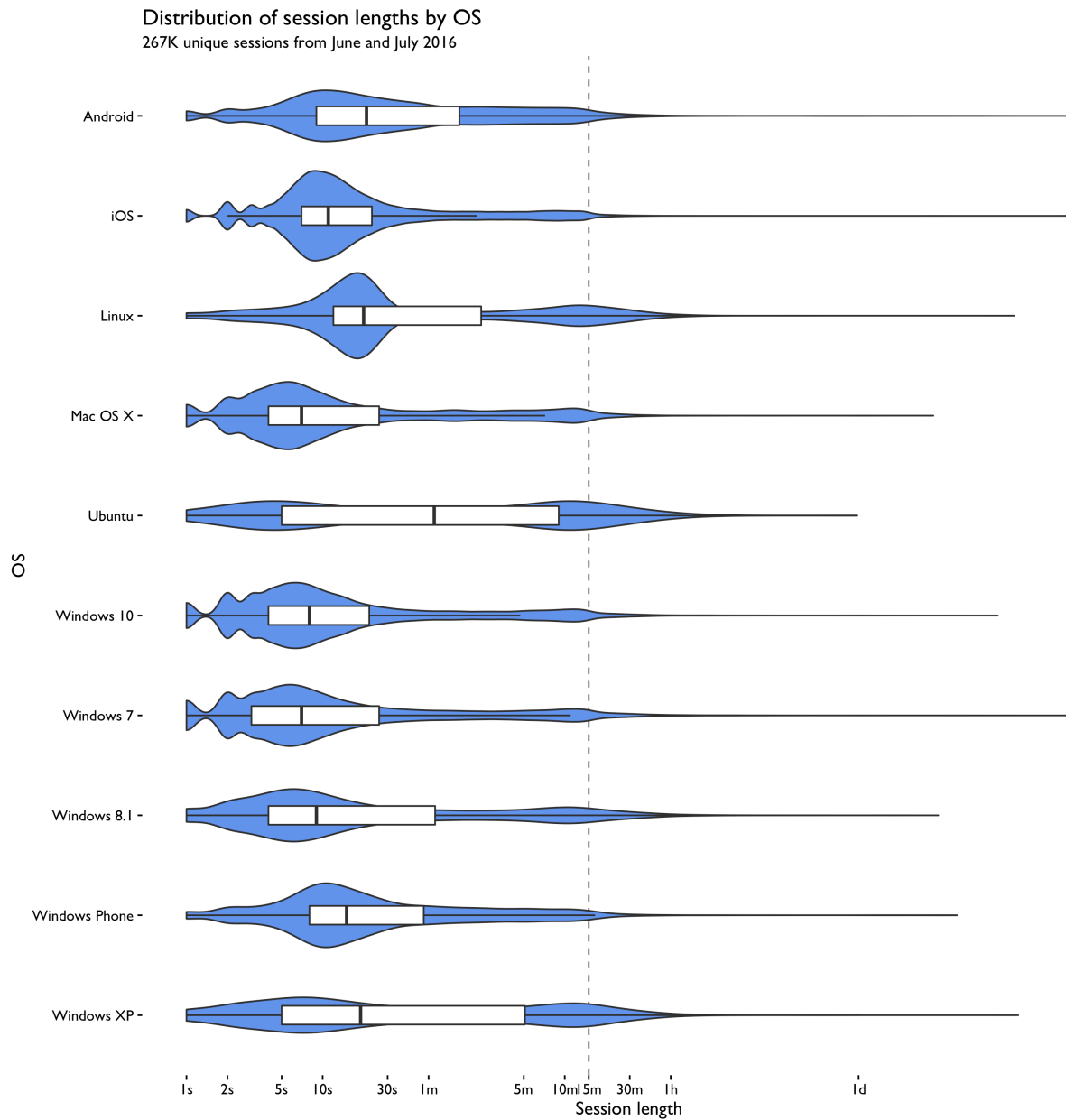
267K unique sessions from June and July 2016

Figure 1: Most sessions are less than 1 min. Some sessions of Linux, Ubuntu and Windows XP last 10-15 min.

Distribution of session lengths by Browser
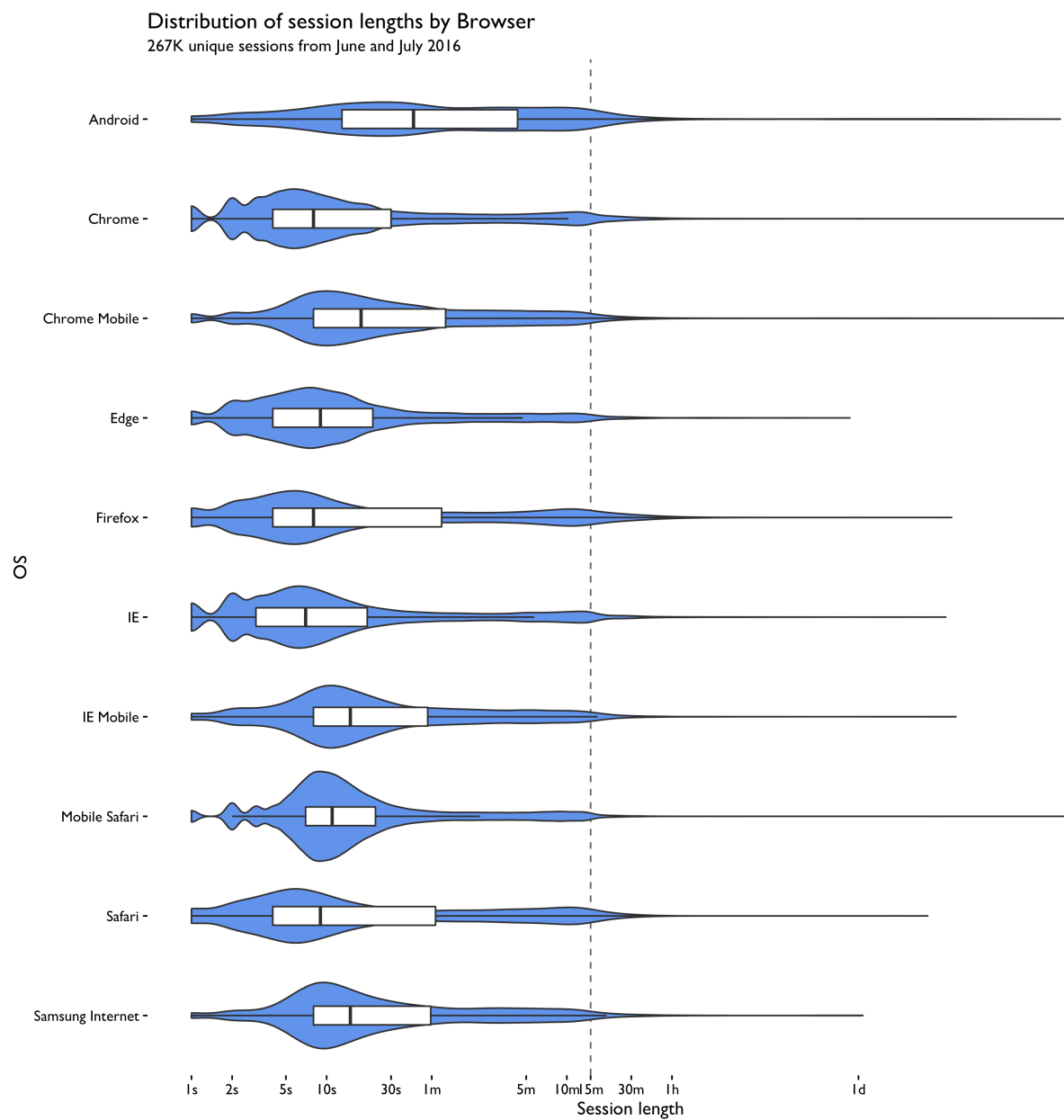267K unique sessions from June and July 2016

Figure 2: Sessions using Android browser has a more spread out distribution: there are more sessions that last longer.

Median session length by OS
267K unique sessions from June and July 2016; top 20 OS by # of sessions

median first visit session length

OS	value
Windows XP	12s
Windows Vista	7s
Windows RT 8.1	13s
Windows RT	12s
Windows Phone	11s
Windows 8.1	7s
Windows 8	9s
Windows 7	6s
Windows 10	6s
Ubuntu	14s
Other	19.5s
Mac OS X	6s
Linux	19s
Kindle	87s
iOS	10s
Firefox OS	14s
Fedora	5s
Chrome OS	7s
BlackBerry OS	34s
Android	12s

median session length

OS	value
Windows XP	19s
Windows Vista	9s
Windows RT 8.1	14s
Windows RT	25s
Windows Phone	15s
Windows 8.1	9s
Windows 8	12s
Windows 7	7s
Windows 10	8s
Ubuntu	66s
Other	37s
Mac OS X	7s
Linux	20s
Kindle	92.5s
iOS	11s
Firefox OS	28s
Fedora	6s
Chrome OS	9s
BlackBerry OS	76s
Android	21s

median time to first click from first visit

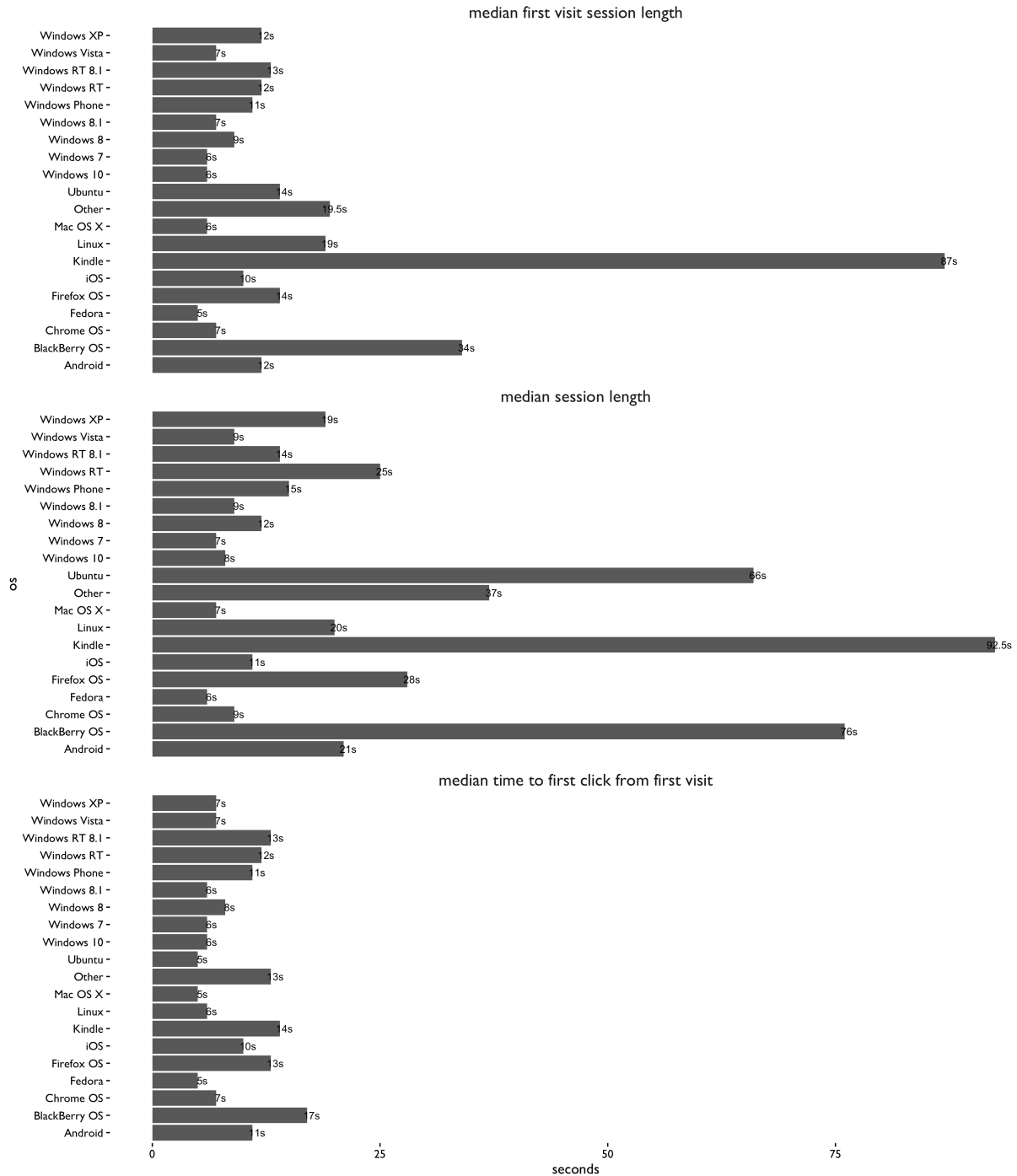| OS	value
Windows XP	7s
Windows Vista	7s
Windows RT 8.1	13s
Windows RT	12s
Windows Phone	11s
Windows 8.1	6s
Windows 8	8s
Windows 7	6s
Windows 10	6s
Ubuntu	5s
Other	13s
Mac OS X	5s
Linux	6s
Kindle	14s
iOS	10s
Firefox OS	13s
Fedora	5s
Chrome OS	7s
BlackBerry OS	17s
Android	11s

seconds

Figure 3: Kindle sessions are very high on median first visit session length and median session length. However, since we only have 36 kindle sessions in these two month, we need to gather more data before drawing a conclusion. Also notice that Ubuntu and BlackBerry OS are high on median session length, but not that extreme on median first visit session length, we suspect that they may revisit the portal multiple times in a session.
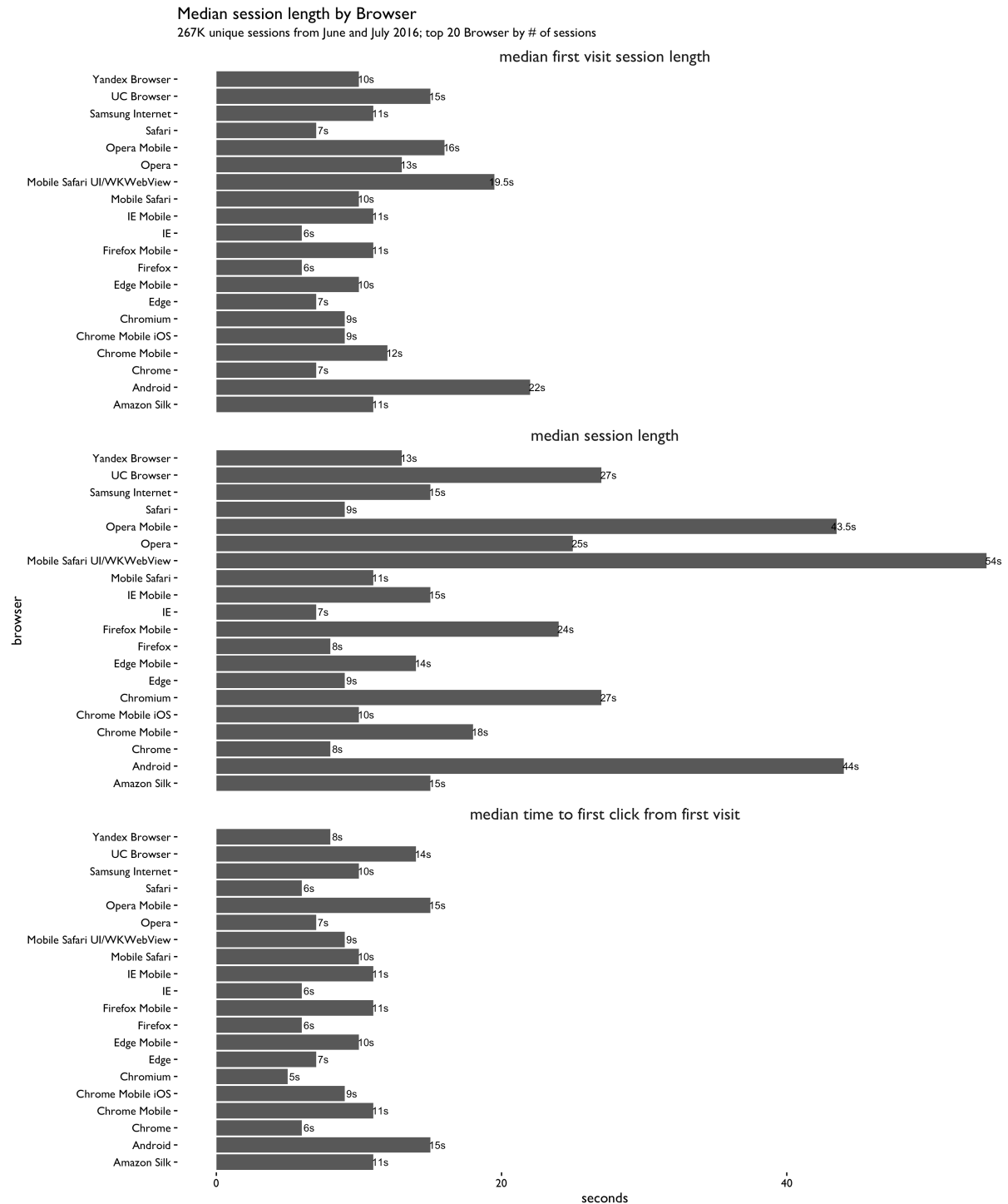
Median session length by Browser

267K unique sessions from June and July 2016; top 20 Browser by # of sessions

median first visit session length

Browser	value
Yandex Browser	10s
UC Browser	15s
Samsung Internet	11s
Safari	7s
Opera Mobile	16s
Opera	13s
Mobile Safari UI/WKWebView	19.5s
Mobile Safari	10s
IE Mobile	11s
IE	6s
Firefox Mobile	11s
Firefox	6s
Edge Mobile	10s
Edge	7s
Chromium	9s
Chrome Mobile iOS	9s
Chrome Mobile	12s
Chrome	7s
Android	22s
Amazon Silk	11s

median session length

Browser	value
Yandex Browser	13s
UC Browser	27s
Samsung Internet	15s
Safari	9s
Opera Mobile	43.5s
Opera	25s
Mobile Safari UI/WKWebView	54s
Mobile Safari	11s
IE Mobile	15s
IE	7s
Firefox Mobile	24s
Firefox	8s
Edge Mobile	14s
Edge	9s
Chromium	27s
Chrome Mobile iOS	10s
Chrome Mobile	18s
Chrome	8s
Android	44s
Amazon Silk	15s

median time to first click from first visit

Browser	value
Yandex Browser	8s
UC Browser	14s
Samsung Internet	10s
Safari	6s
Opera Mobile	15s
Opera	7s
Mobile Safari UI/WKWebView	9s
Mobile Safari	10s
IE Mobile	11s
IE	6s
Firefox Mobile	11s
Firefox	6s
Edge Mobile	10s
Edge	7s
Chromium	5s
Chrome Mobile iOS	9s
Chrome Mobile	11s
Chrome	6s
Android	15s
Amazon Silk	11s

browser

seconds

Figure 4: Median first visit session length, median session length, and median time to first click from initial landing by browser.

Session lengths by Mobile OS
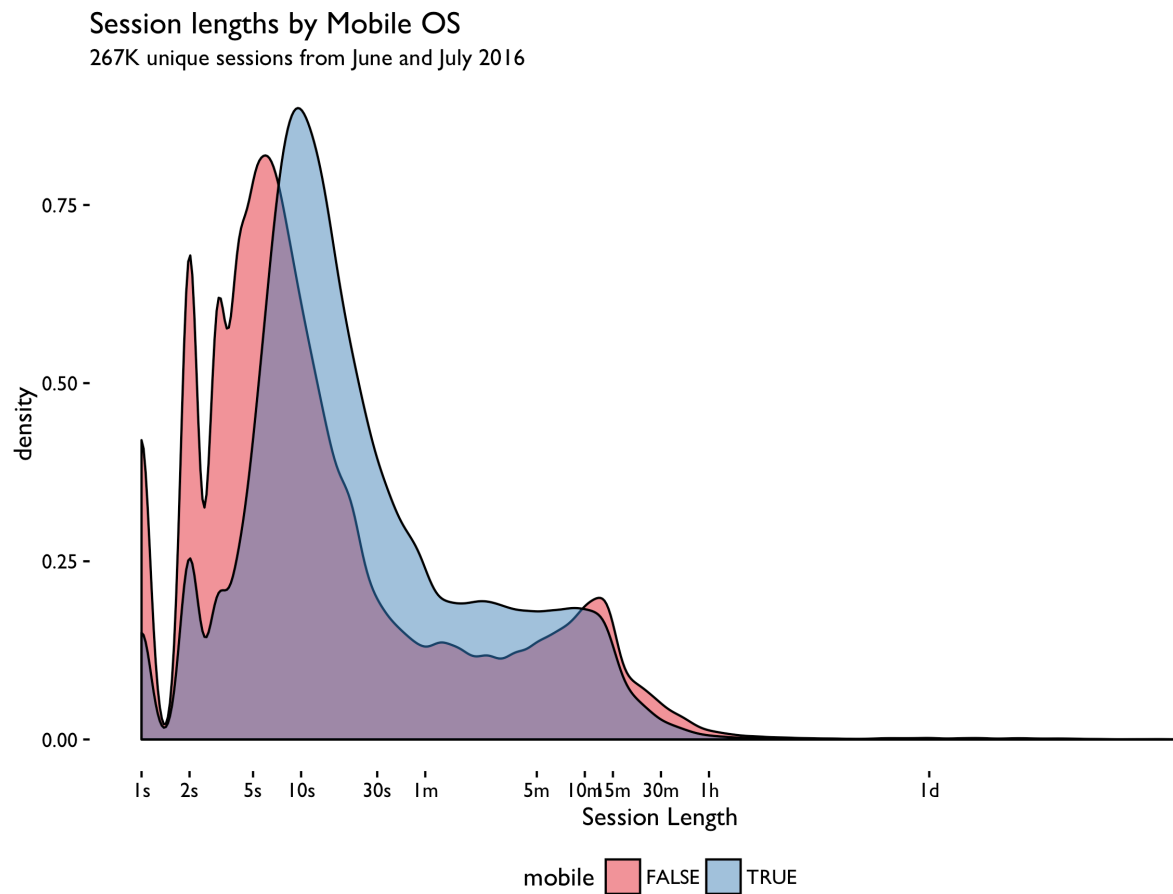267K unique sessions from June and July 2016

Figure 5: Mobile sessions last slightly longer than others, and don't see a second peak around 15 min.

Time to first clickthrough from initial landing by Mobile OS
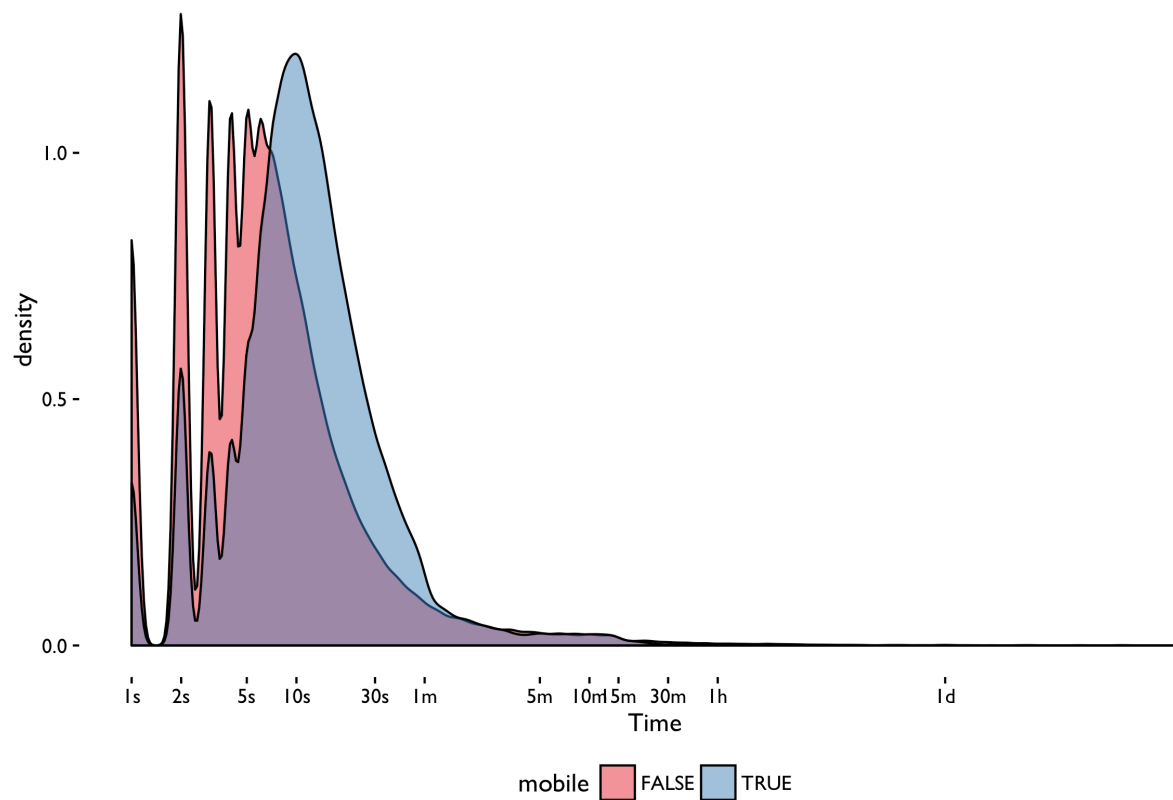242K unique sessions from June and July 2016

Figure 6: It takes longer for mobile sessions to first click through from initial landing.