Warning: These results are preliminary - use with caution (they may e.g. be from different browser versions).Official results are published on my blog.

The benchmark was run on a Razer Blade 15 Advanced (i7-8750H, 32 GB RAM, Ubuntu 19.10 (Linux 5.3.0-19, mitigations=off), Chrome 78.0.3904.70 (64-bit))

Which frameworks? Which benchmarks?

Display mode Display results (mean results) Separate keyed and non-keyed

Keyed results

Keyed implementations create an association between the domain data and a dom element by assigning a 'key'. If data changes the dom element with that key will be updated. In consequence inserting or deleting an element in the data array causes a corresponding change to the dom.

Duration in milliseconds ± 95% confidence interval (Slowdown = Duration / Fastest)

Name Duration for...	vanillajs-keyed	mikado-v0.6.53-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v10.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angular-v8.0.1-keyed	angularjs-v1.7.8-keyed
create rows creating 1,000 rows	115.9 ± 3.3 (1.00)	118.2 ± 3.4 (1.02)	122.7 ± 3.2 (1.06)	122.6 ± 4.2 (1.06)	129.6 ± 5.2 (1.12)	132.3 ± 2.9 (1.14)	149.5 ± 1.9 (1.29)	144.1 ± 3.3 (1.24)	162.3 ± 3.4 (1.40)	165.7 ± 3.8 (1.43)	164.3 ± 7.6 (1.42)	187.3 ± 5.6 (1.62)
replace all rows updating all 1,000 rows (5 warmup runs).	105.7 ± 2.5 (1.02)	103.6 ± 2.1 (1.00)	113.9 ± 2.2 (1.10)	110.8 ± 3.1 (1.07)	114.5 ± 1.3 (1.10)	127.0 ± 1.3 (1.23)	130.8 ± 1.7 (1.26)	129.2 ± 2.8 (1.25)	128.2 ± 2.5 (1.24)	127.8 ± 1.5 (1.23)	134.4 ± 2.4 (1.30)	156.5 ± 2.2 (1.51)
partial update updating every 10th row for 1,000 rows (3 warmup runs). 16x CPU slowdown.	135.8 ± 3.5 (1.00)	137.9 ± 7.0 (1.02)	135.8 ± 6.1 (1.00)	143.5 ± 4.4 (1.06)	174.1 ± 5.3 (1.28)	157.1 ± 4.5 (1.16)	145.2 ± 4.3 (1.07)	178.9 ± 3.8 (1.32)	230.9 ± 6.1 (1.70)	162.2 ± 5.7 (1.19)	147.0 ± 7.3 (1.08)	164.2 ± 8.1 (1.21)
select row highlighting a selected row. (5 warmup runs). 16x CPU slowdown.	19.4 ± 1.8 (1.01)	19.1 ± 2.2 (1.00)	19.1 ± 1.9 (1.00)	22.1 ± 2.0 (1.16)	31.5 ± 8.0 (1.65)	29.6 ± 1.3 (1.55)	48.0 ± 2.2 (2.51)	46.3 ± 2.1 (2.42)	104.7 ± 1.7 (5.47)	31.1 ± 1.5 (1.63)	27.3 ± 2.3 (1.43)	41.4 ± 2.5 (2.16)
swap rows swap 2 rows for table with 1,000 rows. (5 warmup runs). 4x CPU slowdown.	52.3 ± 3.9 (1.08)	52.2 ± 3.0 (1.08)	51.1 ± 5.2 (1.06)	50.4 ± 4.0 (1.04)	52.0 ± 3.0 (1.07)	51.8 ± 6.1 (1.07)	48.4 ± 3.2 (1.00)	56.1 ± 3.8 (1.16)	66.6 ± 1.6 (1.38)	429.6 ± 4.9 (8.88)	423.2 ± 3.5 (8.74)	436.3 ± 5.8 (9.01)
remove row removing one row. (5 warmup runs).	40.3 ± 3.5 (1.03)	39.7 ± 1.9 (1.01)	40.0 ± 1.9 (1.02)	39.2 ± 0.5 (1.00)	39.6 ± 0.6 (1.01)	42.0 ± 2.0 (1.07)	39.2 ± 0.7 (1.00)	40.8 ± 0.4 (1.04)	44.6 ± 1.0 (1.14)	41.7 ± 1.4 (1.07)	40.3 ± 1.5 (1.03)	42.3 ± 0.6 (1.08)
create many rows creating 10,000 rows	933.4 ± 10.0 (1.00)	962.5 ± 23.3 (1.03)	1,079.4 ± 40.5 (1.16)	1,088.6 ± 13.1 (1.17)	1,125.5 ± 25.0 (1.21)	1,212.0 ± 59.0 (1.30)	1,315.9 ± 39.6 (1.41)	1,426.8 ± 64.5 (1.53)	1,251.3 ± 20.8 (1.34)	1,594.9 ± 36.4 (1.71)	1,299.4 ± 12.7 (1.39)	2,058.2 ± 428.1 (2.21)
append rows to large table appending 1,000 to a table of 10,000 rows. 2x CPU slowdown	199.1 ± 1.2 (1.00)	201.3 ± 0.8 (1.01)	222.5 ± 1.8 (1.12)	220.6 ± 2.7 (1.11)	237.0 ± 1.7 (1.19)	261.7 ± 7.8 (1.31)	271.4 ± 3.5 (1.36)	272.0 ± 3.7 (1.37)	288.6 ± 2.2 (1.45)	292.2 ± 10.5 (1.47)	275.1 ± 4.9 (1.38)	321.5 ± 6.6 (1.61)
clear rows clearing a table with 1,000 rows. 8x CPU slowdown	104.9 ± 2.5 (1.01)	104.2 ± 4.1 (1.00)	107.6 ± 2.1 (1.03)	122.7 ± 3.4 (1.18)	134.5 ± 1.4 (1.29)	148.3 ± 4.3 (1.42)	185.4 ± 6.6 (1.78)	156.3 ± 4.2 (1.50)	160.4 ± 4.6 (1.54)	143.4 ± 2.2 (1.38)	244.5 ± 15.3 (2.35)	308.5 ± 21.8 (2.96)
slowdown geometric mean	1.02	1.02	1.06	1.09	1.20	1.24	1.35	1.38	1.62	1.69	1.69	2.06

Startup metrics (lighthouse with mobile simulation)

Name	vanillajs-keyed	mikado-v0.6.53-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v10.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angular-v8.0.1-keyed	angularjs-v1.7.8-keyed
consistently interactive a pessimistic TTI - when the CPU and network are both definitely very idle. (no more CPU tasks over 50ms)	1,882.1 ± 3.6 (1.00)	1,879.8 ± 1.7 (1.00)	1,883.2 ± 3.7 (1.00)	2,031.5 ± 1.9 (1.08)	2,030.7 ± 2.6 (1.08)	1,882.6 ± 3.6 (1.00)	3,436.4 ± 14.8 (1.83)	2,033.5 ± 0.3 (1.08)	2,313.3 ± 39.8 (1.23)	2,515.6 ± 14.1 (1.34)	2,885.4 ± 9.3 (1.53)	2,861.4 ± 4.8 (1.52)

Name	vanillajs-keyed	mikado-v0.6.53-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v10.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angular-v8.0.1-keyed	angularjs-v1.7.8-keyed
script bootup time the total ms required to parse/compile/evaluate all the page's scripts	18.5 ± 2.7 (1.07)	17.3 ± 2.5 (1.00)	31.7 ± 9.4 (1.83)	18.5 ± 2.8 (1.07)	17.7 ± 2.2 (1.03)	19.5 ± 2.4 (1.13)	260.9 ± 28.9 (15.11)	21.7 ± 1.0 (1.26)	59.6 ± 28.6 (3.45)	55.6 ± 45.2 (3.22)	159.8 ± 8.8 (9.25)	128.4 ± 10.4 (7.44)
total kilobyte weight network transfer cost (post-compression) of all the resources loaded into the page.	147.2 ± 0.0 (1.01)	148.1 ± 0.0 (1.02)	148.0 ± 0.0 (1.02)	162.9 ± 0.0 (1.12)	156.4 ± 0.0 (1.07)	145.7 ± 0.0 (1.00)	439.0 ± 0.0 (3.01)	152.5 ± 0.0 (1.05)	211.2 ± 0.0 (1.45)	260.8 ± 0.0 (1.79)	295.5 ± 0.0 (2.03)	324.4 ± 0.0 (2.23)
slowdown geometric mean	1.03	1.01	1.23	1.09	1.06	1.04	4.37	1.13	1.83	1.98	3.07	2.93

Memory allocation in MBs ± 95% confidence interval

Name	vanillajs-keyed	mikado-v0.6.53-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v10.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angular-v8.0.1-keyed	angularjs-v1.7.8-keyed
ready memory Memory usage after page load.	1.8 ± 0.0 (1.00)	1.9 ± 0.0 (1.05)	1.9 ± 0.0 (1.01)	1.9 ± 0.0 (1.03)	1.9 ± 0.0 (1.05)	1.9 ± 0.0 (1.01)	3.6 ± 0.0 (1.98)	1.9 ± 0.0 (1.03)	2.1 ± 0.0 (1.15)	2.3 ± 0.0 (1.25)	4.8 ± 0.0 (2.58)	2.8 ± 0.0 (1.52)
run memory Memory usage after adding 1000 rows.	2.5 ± 0.0 (1.00)	2.5 ± 0.0 (1.00)	2.8 ± 0.0 (1.11)	4.3 ± 0.0 (1.70)	4.2 ± 0.0 (1.66)	3.9 ± 0.0 (1.56)	8.3 ± 0.0 (3.30)	4.9 ± 0.0 (1.94)	7.1 ± 0.0 (2.83)	6.9 ± 0.0 (2.74)	9.1 ± 0.0 (3.64)	10.6 ± 0.0 (4.24)
update eatch 10th row for 1k rows (5 cycles) Memory usage after clicking update every 10th row 5 times	3.1 ± 0.0 (1.08)	2.9 ± 0.0 (1.00)	3.1 ± 0.0 (1.09)	4.6 ± 0.0 (1.61)	4.6 ± 0.0 (1.59)	4.3 ± 0.0 (1.48)	8.6 ± 0.0 (2.97)	5.2 ± 0.0 (1.81)	7.5 ± 0.0 (2.60)	8.0 ± 0.0 (2.79)	9.5 ± 0.0 (3.29)	10.9 ± 0.0 (3.80)
replace 1k rows (5 cycles) Memory usage after clicking create 1000 rows 5 times	3.4 ± 0.1 (1.09)	3.1 ± 0.0 (1.00)	3.4 ± 0.1 (1.10)	4.9 ± 0.0 (1.57)	4.8 ± 0.0 (1.55)	4.5 ± 0.0 (1.44)	9.0 ± 0.0 (2.89)	7.7 ± 0.0 (2.46)	7.7 ± 0.0 (2.47)	8.9 ± 0.0 (2.85)	9.9 ± 0.1 (3.17)	11.5 ± 0.0 (3.70)
creating/clearing 1k rows (5 cycles) Memory usage after creating and clearing 1000 rows 5 times	3.4 ± 0.1 (1.06)	3.2 ± 0.0 (1.01)	3.2 ± 0.0 (1.00)	3.3 ± 0.0 (1.03)	3.6 ± 0.0 (1.13)	3.2 ± 0.0 (1.00)	6.2 ± 0.1 (1.93)	5.8 ± 0.0 (1.82)	3.8 ± 0.0 (1.20)	4.7 ± 0.1 (1.48)	6.6 ± 0.0 (2.07)	4.5 ± 0.0 (1.42)
slowdown geometric mean	1.04	1.01	1.06	1.35	1.37	1.27	2.55	1.74	1.90	2.09	2.89	2.64