

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 19.04 (Linux 5.0.0-27, mitigations=off), Chrome 77.0.3865.75 (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...	mikado- v0.1.2- keyed	vanillajs- keyed	vanillajs- wc-keyed	inferno- v7.2.1- keyed	lit-html- v1.1.0- keyed	svelte- v3.5.1- keyed	preact- v8.4.2- keyed	aurelia- v1.3.0- 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	118.3 ± 4.6 (1.03)	114.4 ± 4.7 (1.00)	124.9 ± 5.5 (1.09)	125.9 ± 4.7 (1.10)	130.2 ± 4.5 (1.14)	135.1 ± 6.5 (1.18)	144.7 ± 4.3 (1.26)	152.2 ± 5.8 (1.33)	166.2 ± 5.3 (1.45)	167.9 ± 5.5 (1.47)	189.0 ± 13.5 (1.65)	190.7 ± 6.3 (1.67)
replace all rows updating all 1,000 rows (5 warmup runs).	105.2 ± 1.7 (1.01)	104.6 ± 1.3 (1.00)	111.7 ± 1.2 (1.07)	109.2 ± 1.4 (1.04)	116.8 ± 1.8 (1.12)	130.1 ± 1.6 (1.24)	130.9 ± 2.7 (1.25)	133.6 ± 2.2 (1.28)	127.9 ± 2.4 (1.22)	127.9 ± 2.2 (1.22)	134.4 ± 2.1 (1.29)	156.3 ± 3.1 (1.49)
partial update updating every 10th row for 1,000 rows (3 warmup runs). 16x CPU slowdown.	129.9 ± 3.2 (1.00)	135.2 ± 6.5 (1.04)	135.6 ± 3.9 (1.04)	138.8 ± 4.4 (1.07)	159.8 ± 6.9 (1.23)	157.1 ± 5.3 (1.21)	186.2 ± 12.6 (1.43)	138.2 ± 4.8 (1.06)	224.9 ± 8.0 (1.73)	160.7 ± 3.7 (1.24)	140.6 ± 5.3 (1.08)	158.2 ± 4.8 (1.22)
select row highlighting a selected row. (5 warmup runs). 16x CPU slowdown.	19.2 ± 1.9 (1.03)	19.9 ± 1.9 (1.06)	18.7 ± 1.6 (1.00)	22.8 ± 1.6 (1.22)	27.0 ± 2.1 (1.45)	27.8 ± 2.1 (1.49)	44.0 ± 2.4 (2.35)	66.1 ± 7.7 (3.54)	103.4 ± 1.8 (5.53)	33.5 ± 2.6 (1.79)	28.1 ± 2.5 (1.50)	38.4 ± 1.9 (2.06)
swap rows swap 2 rows for table with 1,000 rows. (5 warmup runs). 4x CPU slowdown.	47.4 ± 4.6 (1.00)	50.3 ± 3.1 (1.06)	48.1 ± 3.0 (1.01)	52.5 ± 3.6 (1.11)	51.4 ± 3.1 (1.09)	51.5 ± 3.0 (1.09)	53.0 ± 1.2 (1.12)	49.3 ± 2.8 (1.04)	66.4 ± 1.8 (1.40)	430.3 ± 5.1 (9.08)	417.8 ± 2.0 (8.81)	431.9 ± 7.1 (9.11)
remove row removing one row. (5 warmup runs).	41.4 ± 3.6 (1.05)	43.0 ± 3.5 (1.09)	40.9 ± 3.4 (1.04)	41.9 ± 1.8 (1.07)	40.8 ± 1.3 (1.04)	40.2 ± 0.9 (1.02)	41.2 ± 1.0 (1.05)	39.3 ± 1.0 (1.00)	46.3 ± 2.6 (1.18)	43.6 ± 3.1 (1.11)	41.2 ± 1.5 (1.05)	46.9 ± 4.9 (1.19)
create many rows creating 10,000 rows	944.0 ± 9.9 (1.00)	943.5 ± 25.7 (1.00)	1,054.6 ± 26.4 (1.12)	1,036.4 ± 16.7 (1.10)	1,094.5 ± 21.4 (1.16)	1,201.5 ± 21.0 (1.27)	1,279.4 ± 20.3 (1.36)	1,272.9 ± 21.8 (1.35)	1,220.4 ± 12.0 (1.29)	1,518.7 ± 16.2 (1.61)	1,375.8 ± 58.8 (1.46)	1,487.6 ± 42.2 (1.58)
append rows to large table appending 1,000 to a table of 10,000 rows. 2x CPU slowdown	200.6 ± 1.5 (1.00)	202.8 ± 2.6 (1.01)	233.9 ± 11.7 (1.17)	223.4 ± 6.2 (1.11)	241.2 ± 2.8 (1.20)	258.2 ± 3.5 (1.29)	272.3 ± 5.1 (1.36)	279.5 ± 7.4 (1.39)	295.8 ± 5.5 (1.47)	291.3 ± 3.7 (1.45)	272.7 ± 3.2 (1.36)	328.5 ± 5.4 (1.64)
clear rows clearing a table with 1,000 rows. 8x CPU slowdown	98.1 ± 2.5 (1.00)	98.2 ± 2.5 (1.00)	101.2 ± 1.9 (1.03)	121.0 ± 4.5 (1.23)	130.9 ± 4.3 (1.33)	147.9 ± 7.5 (1.51)	154.4 ± 2.2 (1.57)	178.6 ± 10.1 (1.82)	155.2 ± 4.7 (1.58)	142.3 ± 2.9 (1.45)	236.6 ± 8.0 (2.41)	298.5 ± 17.0 (3.04)
slowdown geometric mean	1.01	1.03	1.06	1.12	1.19	1.25	1.38	1.42	1.64	1.73	1.75	2.01

Startup metrics (lighthouse with mobile simulation)

Name	mikado- v0.1.2- keyed	vanillajs- keyed	vanillajs- wc-keyed	inferno- v7.2.1- keyed	lit-html- v1.1.0- keyed	svelte- v3.5.1- keyed	preact- v8.4.2- keyed	aurelia- v1.3.0- 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)	1,879.1 ± 2.5 (1.00)	1,879.9 ± 3.3 (1.00)	1,884.2 ± 0.9 (1.00)	2,032.6 ± 2.4 (1.08)	1,920.9 ± 74.1 (1.02)	1,882.8 ± 3.1 (1.00)	2,033.0 ± 1.5 (1.08)	3,408.9 ± 12.5 (1.81)	2,334.2 ± 0.8 (1.24)	2,528.1 ± 6.0 (1.35)	2,860.2 ± 4.0 (1.52)	2,900.6 ± 73.8 (1.54)

Name	mikado-v0.1.2-keyed	vanillajs-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	preact-v8.4.2-keyed	aurelia-v1.3.0-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	17.4 ± 2.8 (1.00)	18.6 ± 3.9 (1.07)	36.9 ± 2.1 (2.12)	21.3 ± 3.5 (1.22)	22.9 ± 2.1 (1.32)	20.2 ± 2.8 (1.16)	21.6 ± 1.8 (1.24)	73.5 ± 112.8 (4.22)	82.0 ± 12.0 (4.71)	96.9 ± 10.1 (5.56)	131.2 ± 78.5 (7.53)	115.4 ± 65.2 (6.63)
total kilobyte weight network transfer cost (post-compression) of all the resources loaded into the page.	147.1 ± 0.0 (1.01)	147.2 ± 0.0 (1.01)	148.0 ± 0.0 (1.02)	162.9 ± 0.0 (1.12)	151.2 ± 0.0 (1.04)	145.7 ± 0.0 (1.00)	152.5 ± 0.0 (1.05)	439.0 ± 0.0 (3.01)	211.1 ± 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	1.00	1.03	1.29	1.14	1.12	1.05	1.12	2.85	2.04	2.37	2.85	2.83

Memory allocation in MBs ± 95% confidence interval

Name	mikado-v0.1.2-keyed	vanillajs-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	preact-v8.4.2-keyed	aurelia-v1.3.0-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.	1.9 ± 0.0 (1.03)	1.8 ± 0.0 (1.00)	1.9 ± 0.0 (1.01)	1.9 ± 0.0 (1.03)	1.9 ± 0.0 (1.05)	1.9 ± 0.0 (1.02)	1.9 ± 0.0 (1.03)	3.7 ± 0.0 (1.99)	2.1 ± 0.0 (1.16)	2.4 ± 0.1 (1.28)	4.8 ± 0.0 (2.59)	2.8 ± 0.0 (1.54)
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)	4.9 ± 0.0 (1.93)	8.3 ± 0.0 (3.31)	7.1 ± 0.0 (2.83)	6.9 ± 0.0 (2.74)	9.2 ± 0.0 (3.65)	10.7 ± 0.0 (4.25)
update each 10th row for 1k rows (5 cycles) Memory usage after clicking update every 10th row 5 times	2.9 ± 0.0 (1.00)	3.1 ± 0.1 (1.06)	3.1 ± 0.0 (1.09)	4.7 ± 0.0 (1.62)	4.6 ± 0.0 (1.60)	4.3 ± 0.0 (1.48)	5.2 ± 0.0 (1.82)	8.6 ± 0.0 (2.99)	7.5 ± 0.0 (2.61)	8.1 ± 0.0 (2.80)	9.5 ± 0.0 (3.31)	11.0 ± 0.0 (3.82)
replace 1k rows (5 cycles) Memory usage after clicking create 1000 rows 5 times	3.1 ± 0.0 (1.00)	3.3 ± 0.1 (1.05)	3.4 ± 0.1 (1.10)	4.9 ± 0.0 (1.57)	4.8 ± 0.0 (1.55)	4.5 ± 0.0 (1.43)	7.7 ± 0.0 (2.46)	9.0 ± 0.0 (2.89)	7.7 ± 0.0 (2.48)	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	3.2 ± 0.0 (1.02)	3.3 ± 0.1 (1.04)	3.2 ± 0.0 (1.02)	3.3 ± 0.0 (1.05)	3.6 ± 0.0 (1.14)	3.1 ± 0.1 (1.00)	5.8 ± 0.0 (1.85)	6.2 ± 0.1 (1.97)	3.8 ± 0.0 (1.22)	4.8 ± 0.0 (1.52)	6.6 ± 0.0 (2.11)	4.5 ± 0.0 (1.44)
slowdown geometric mean	1.01	1.03	1.06	1.36	1.37	1.27	1.75	2.57	1.92	2.12	2.91	2.66