

New Web Frameworks

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New stuff

Svelte / SvelteKit - "Compiler"

SolidJS - Reactive library for creating frameworks

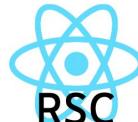
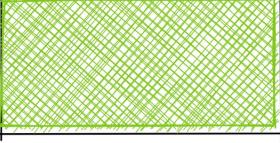
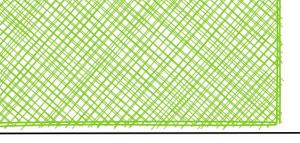
Marko 6 - SSR focused JS lib

Qwik - "The HTML-first framework" - resumable

Astro - Static site builder - Islands architecture

Remix - SSR React, "React for Boomers", HTML focused

Progressive / Partial / Resumable

	 2 (2015)	 RSC (2020+)	 (2021)	 (2021)	 6 (2022+)
Progressive					
Partial					
Resumable					

* Not Officially Released Yet

- Progressive: Load JS/Hydrate on event/interaction
- Partial: Use knowledge of server vs client to only ship code/serialize data needed in the browser
- Resumable: Do not repeat any work in the browser already done on the server



Not Currently Available



Coarse (Component-grained)



Optimal (Fine-grained)

Name Duration for...	vanillajs-1	solid-v1.3.12	marko6-vinvalid	lit-v2.1.1	vue-v3.2.26	svelte-v3.46.2	preact-v10.6.4	react-hooks-v18.0.0	marko-v4.12.3
Implementation notes	772			801					
create rows creating 1,000 rows	87.1 ± 3.8 (1.00)	92.5 ± 5.5 (1.06)	98.9 ± 4.2 (1.13)	116.1 ± 7.0 (1.33)	114.4 ± 5.2 (1.31)	110.4 ± 6.2 (1.27)	112.0 ± 4.0 (1.29)	118.3 ± 4.9 (1.36)	141.5 ± 5.0 (1.62)
replace all rows updating all 1,000 rows (5 warmup runs).	92.8 ± 0.4 (1.00)	98.4 ± 0.6 (1.06)	98.4 ± 0.8 (1.06)	95.0 ± 1.8 (1.02)	110.9 ± 1.1 (1.19)	127.8 ± 1.3 (1.38)	119.8 ± 3.6 (1.29)	111.5 ± 4.1 (1.20)	146.2 ± 2.0 (1.57)
partial update updating every 10th row for 1,000 rows (3 warmup runs). 2x CPU slowdown.	20.7 ± 0.3 (1.00)	22.1 ± 0.5 (1.07)	24.8 ± 0.3 (1.20)	23.9 ± 0.6 (1.15)	25.2 ± 0.4 (1.21)	25.9 ± 0.7 (1.25)	23.5 ± 0.3 (1.13)	24.4 ± 0.9 (1.18)	29.5 ± 2.0 (1.42)
select row highlighting a selected row. (no warmup runs). 4x CPU slowdown.	5.9 ± 0.2 (1.00)	6.2 ± 0.2 (1.06)	11.9 ± 0.3 (2.02)	10.1 ± 0.4 (1.73)	9.1 ± 0.6 (1.55)	9.5 ± 0.8 (1.61)	14.0 ± 0.5 (2.37)	18.5 ± 0.6 (3.15)	29.9 ± 1.8 (5.09)
swap rows swap 2 rows for table with 1,000 rows. (5 warmup runs). 2x CPU slowdown.	24.1 ± 1.1 (1.00)	24.5 ± 0.5 (1.02)	26.6 ± 0.5 (1.11)	29.3 ± 0.6 (1.22)	24.6 ± 0.3 (1.02)	27.2 ± 0.8 (1.13)	24.9 ± 0.5 (1.04)	201.9 ± 0.9 (8.39)	202.5 ± 1.0 (8.41)
remove row removing one row. (5 warmup runs).	20.1 ± 0.5 (1.02)	19.7 ± 0.6 (1.00)	21.3 ± 0.4 (1.08)	22.1 ± 0.3 (1.12)	22.6 ± 0.6 (1.15)	20.7 ± 0.6 (1.05)	20.6 ± 0.4 (1.05)	20.9 ± 0.5 (1.06)	24.9 ± 0.4 (1.26)
create many rows creating 10,000 rows	990.2 ± 62.6 (1.01)	982.0 ± 29.5 (1.00)	1,031.2 ± 43.6 (1.05)	1,164.3 ± 38.6 (1.19)	1,269.5 ± 26.4 (1.29)	1,350.6 ± 49.7 (1.38)	1,304.6 ± 22.0 (1.33)	1,501.9 ± 28.9 (1.53)	1,528.0 ± 21.8 (1.56)
append rows to large table appending 1,000 to a table of 10,000 rows.	99.6 ± 3.0 (1.00)	101.5 ± 1.1 (1.02)	107.6 ± 3.8 (1.08)	108.8 ± 3.8 (1.09)	116.3 ± 2.9 (1.17)	135.3 ± 2.5 (1.36)	137.1 ± 7.0 (1.38)	124.3 ± 1.0 (1.25)	144.8 ± 2.8 (1.45)
clear rows clearing a table with 1,000 rows. 2x CPU slowdown	18.6 ± 0.4 (1.00)	21.2 ± 0.4 (1.14)	19.1 ± 1.4 (1.03)	19.6 ± 6.3 (1.06)	26.1 ± 0.5 (1.41)	26.8 ± 0.7 (1.44)	26.1 ± 0.6 (1.40)	26.6 ± 0.4 (1.43)	37.0 ± 2.6 (1.99)

Questions / Discussion

Sources

- Rich Harris: Transitional Apps - <https://www.youtube.com/watch?v=860d8usGC0o>
- <https://dev.to/this-is-learning/building-javascript-frameworks-to-conquer-ecommerce-3glc>
- Qwik - <https://dev.to/mhevery/series/13467>
- Marko 6 - <https://dev.to/ryansolid/series/14986>
- Ryan Carnito Youtube:
 - Building Qwik w/ Misko Hevery - <https://www.youtube.com/watch?v=lY6e7Hw4uVo>
 - Astro SSR w/ Fred K. Schott - https://www.youtube.com/watch?v=2ZEMb_H-LYE
 - Building Marko 6 w/ Dylan Piercey, and Michael Rawlings - <https://www.youtube.com/watch?v=Y22xf8EjioE>
- Learn With Jason
 - Let's Learn Remix! <https://www.youtube.com/watch?v=pDdmF9ZhAA>
 - Let's Learn SolidJS <https://www.youtube.com/watch?v=ZZ-a7B761Ds>
- Remix Todo Demo - <https://github.com/derkoe/remix-todos>