History of WebGPU in Deno



Hello! I'm Leo kettmeir

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What are WebGPU and wgpu

- Low-level successor to WebGL
- Originally proposed in 2017

- wgpu is Mozilla's implementation
- Originally an idea by Dzmitry Malyshau (kvark), unrelated to WebGPU
- Multiple iterations



Deno internal structure





How it all started

- Started in October 2020
- Landed in March 2021
- Thanks to Luca Casonato for helping out & cleaning up the more spec specific aspects
- Thanks to kvark for answering my questions

Involvement with wgpu

- Shallow cloned codebase across deno and wgpu repositories
- CTS Runner
- Involved with the gfx-rs administration

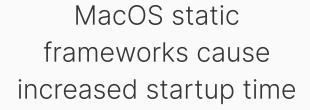
The problem





Two main causes







Snapshot size increase

MacOS static frameworks cause increased startup time





Making these frameworks weak gave us a decent startup time





Snapshot size increase





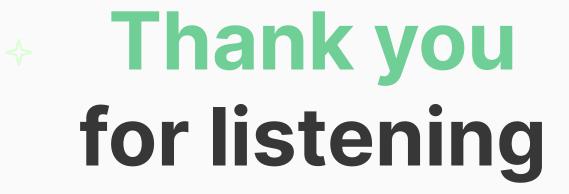
Use lazy loadable ES Modules





What's next

- Improve weak linking frameworks
- Enable WebGPU CTS
- Implement OffscreenCanvas
- Use Vello for CanvasRenderingContext2D



Do you have any questions?

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