History of WebGPU in Deno
Hello!
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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

- cli
- runtime
- extensions
  - fetch
  - crypto
  - WebGPU
- deno_core
- rusty_v8
How it all started

- Started in October 2020
- Landed in March 2021
- Thanks to Luca Casonato for helping out & cleaning up the more 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

MacOS static frameworks cause increased startup time

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
Thank you for listening

Do you have any questions?

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