

IPVM

InterPlanetary Virtual Machine

The Long-Fabled Execution Layer

"The Easiest Way to Run Wasm Everywhere"

The Fastest Way to Ship IPFS Features to Users

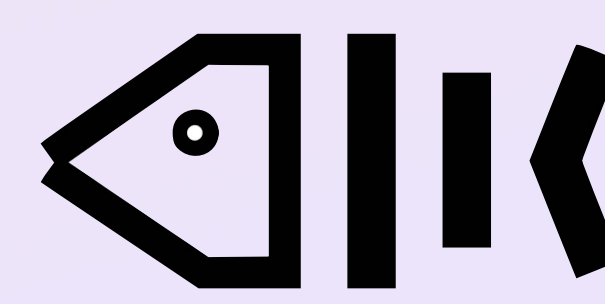
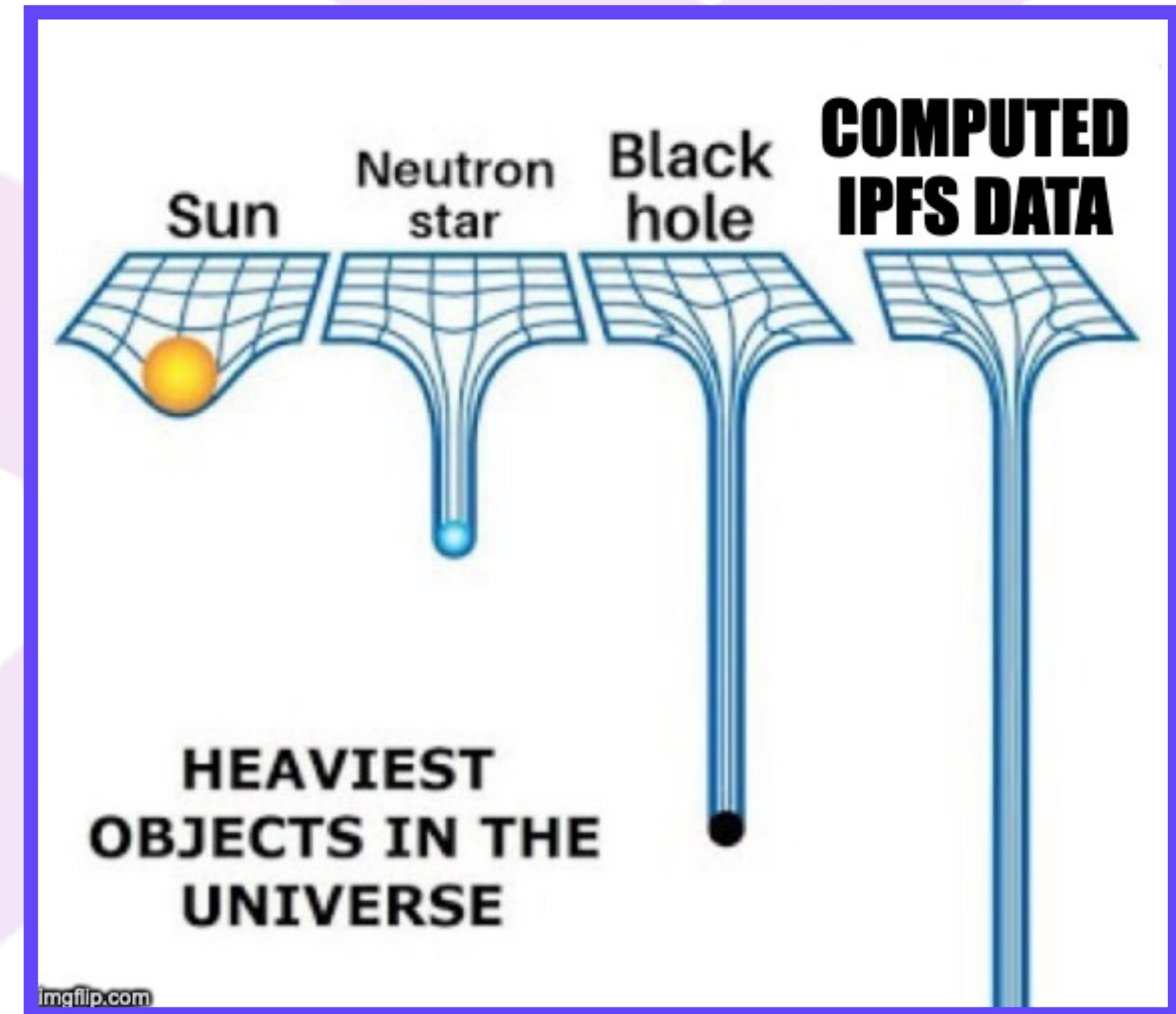
A Step Towards an InterPlanetary Operating System

IPVM and Wasm, Three ways

- A blessed VM (Wasm) in every IPFS node
- Like data, compute should be ubiquitous
- wasm-ipfs: transparent IPFS node upgrades (like the web) 🎭
- Autocodec: ad-hoc data transformations in Gateways & nodes
- IPVM: Replace AWS's proprietary Lambda with an open protocol

Building the “HTTP of Compute”

- Lean into content addressing
- Cache & memoize computed data
- Local and remote execution
- Reuse Wasm effort, infra, tooling, community experience, etc
- FVM, Aquamarine, CloudFlare Workers, Bacalhau, web3.storage invocations, IPFS-FAN





Join the IPVM Working Group

- Working Group Lead: Brooklyn Zelenka, Fission CTO
 - Spec, GitHub Discussions <https://github.com/ipvm-wg/>
 - Community Calls <https://lu.ma/ipvm>
- Coordinating with Compute over Data Working Group
- Growing our team:
 - Zeekash Lakhani (Basho/Riak, Papers We Love)
 - Blaine Cook (Twitter, OAuth, Webfinger, Ink & Switch, DWeb)







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**Edge computing app stack:
identity, data, & compute**

Ecosystem Obsessed

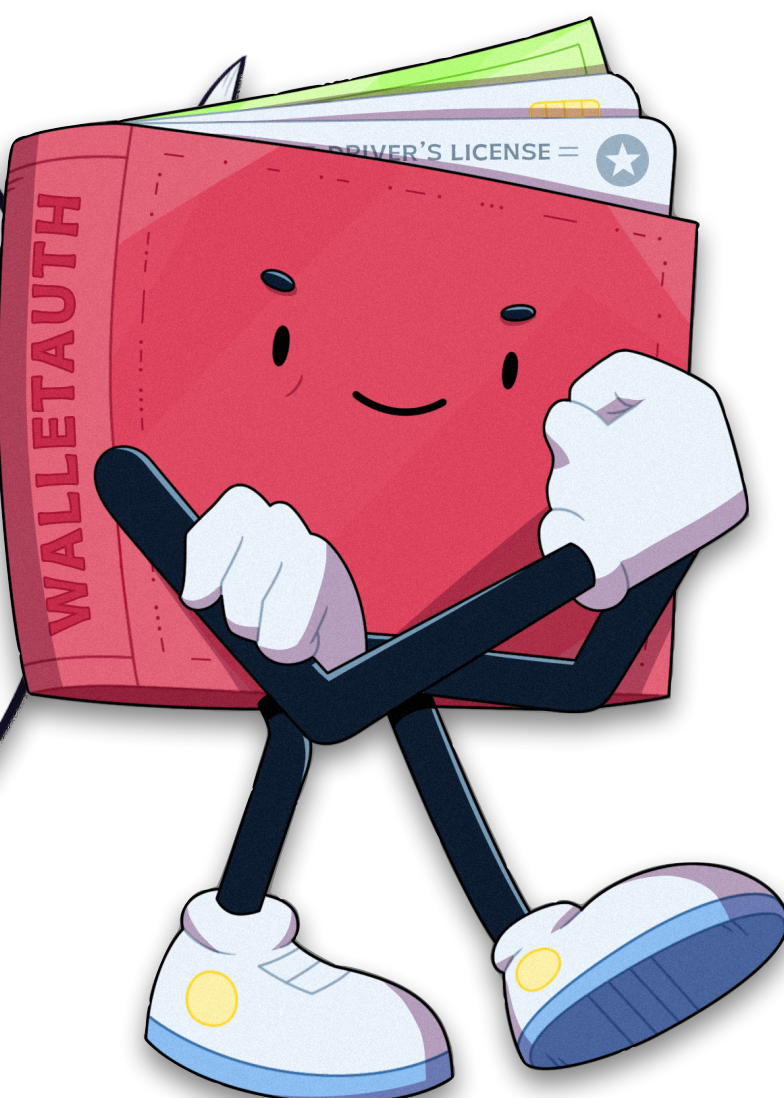
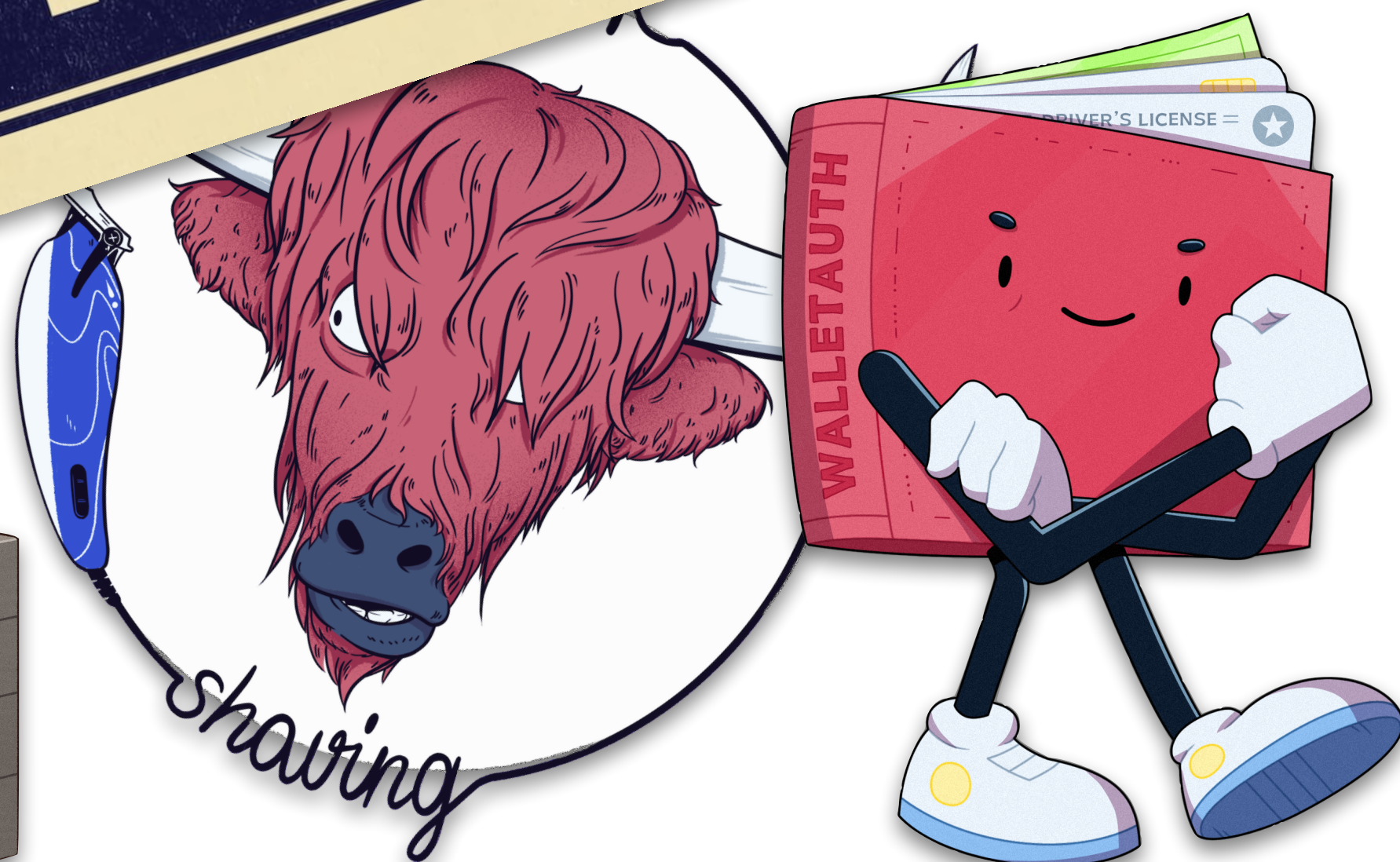


Fission Researches & Develops Edge Computing Protocols

- UCAN: decentralized auth based on DIDs
- WNFS: e2ee file system on top of IPFS with capabilities, versioning, etc.
-  CAR Pool: fast synchronization of large IPLD graphs
-  Dialog: planet scale far edge database



SCREAMING_CASE



Research graduates to Ecosystem Working Groups

- Running code and rough consensus
 - ...and an iterative, community driven spec process that is IPR cleared
 - Work on shared libraries together
 - Interop across platforms
- UCAN - Web3Storage, Bluesky, TBD Web5, Noosphere
- WNFS - n0, Cappyloon, Webrecorder, IPFS, Filecoin



Webnative

Complete SDK for Functional Web Apps on IPFS

<https://webnative-template.fission.app>



Active Ecosystem Development

- IPVM Working Group
 - TBD (Front end developer focused Wasm functions)
- FIL Account Working Group
 - Use your FIL account to login to any app (not just on chain ones!)
- Private Data on Filecoin
 - End to end flows with WNFS and UCAN



CAUSAL ISLANDS

Explore the Future of Computing

Toronto, April 2023
<https://causalislands.com>



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