



BUILDING WEB NATIVE APPS

IPFS COMMUNITY CALL MARCH 2020



WHAT IF FRONT END CODE WAS ALL YOU NEEDED?

- Front end is never going away
- Browsers keep getting **more powerful**
- New public infrastructure
- Rise of edge computing



WEB APPS ARE HARD

- Multiple specialities = big teams & more coordination
 - Front End
 - Back End
 - DevOps
- Lots of boilerplate
- Data security and access control are hard
- Deployment in 2020 is super complex






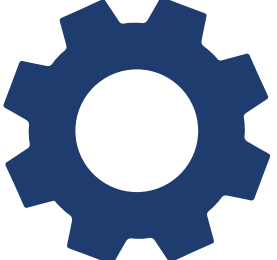





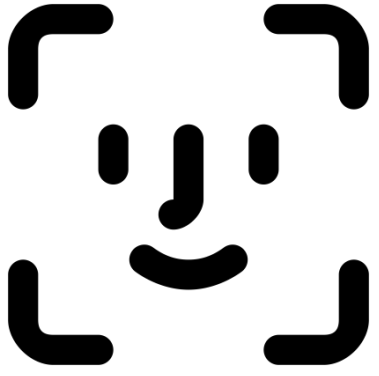
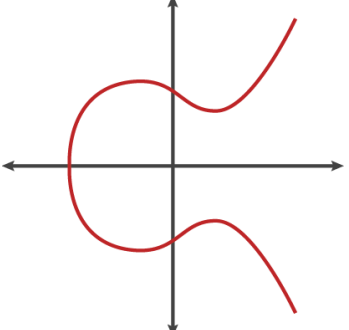

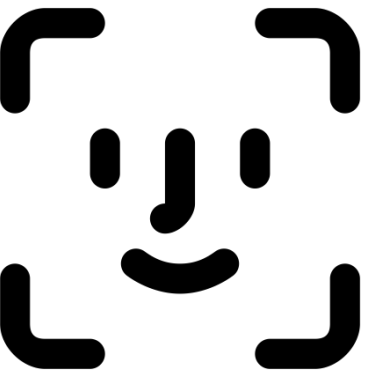
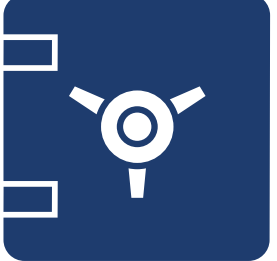




WEB NATIVE APPS

- Integrated framework for self-contained “web native” apps
- Hosted services for a batteries included experience
- Convenience, deployment pipelines, “it just works”
- Features for Developers
 - User Accounts with Data Privacy
 - Passwordless Login & Authentication
 - Modern App hosting, DNS, CDN
 - Access Control & Encryption



Like native apps for the web:
self contained, user-controlled data, client-side compute, etc.

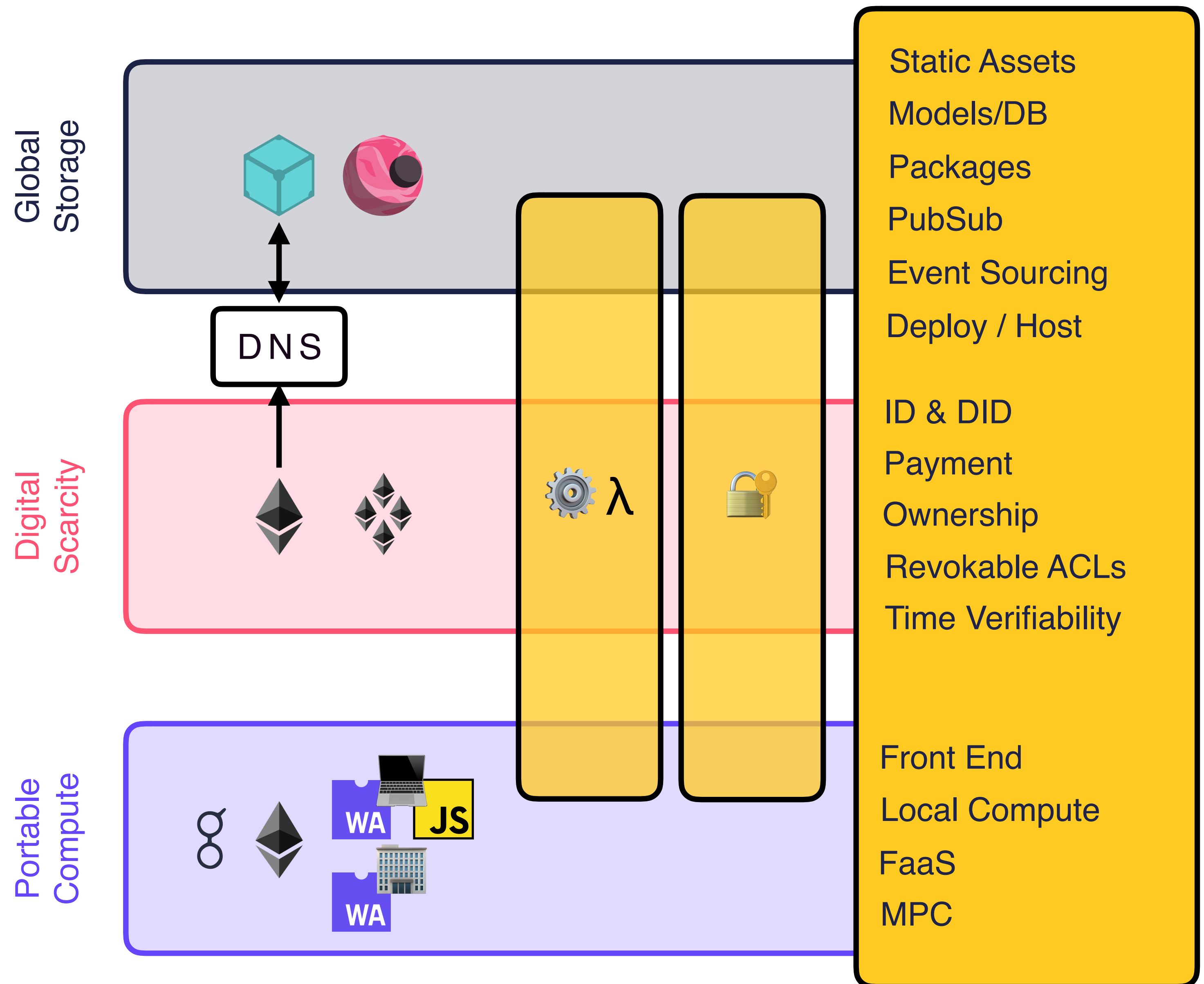
	iOS 	   + 
Compute 	 	 
Identity 		  
Storage 		



WEB NATIVE

- You should be able to build an entire app while offline on a plane, create the first user account locally, and have it be “deployed” by connecting to the Internet when you land
- Should work in all browsers, including mobile, without plugins

WEB NATIVE 





BUILT SO FAR

Go try it! guide.fission.codes

- Web API
 - RESTful API for IPFS
 - Heroku Add-on
 - DNS Automation
- CLI
 - Devs install IPFS locally
 - Signup, login, can all be done in the CLI
 - `fission up`

```
repos/FISSION/playground
```





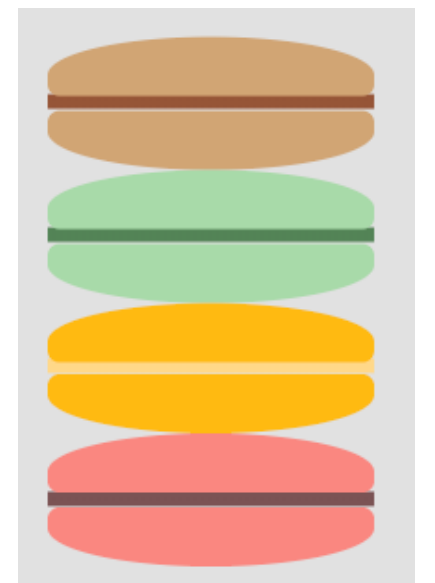
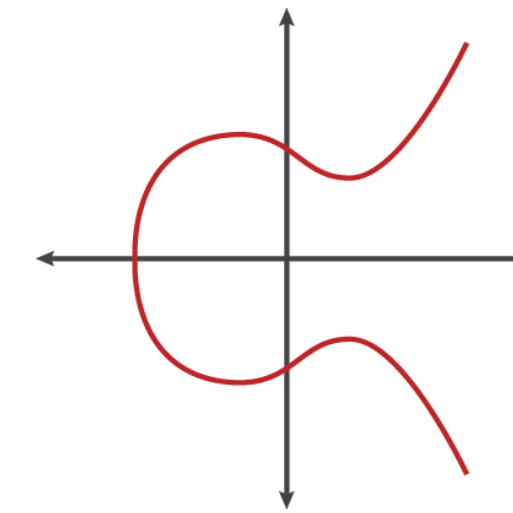
NEXT UP

- Public/Private Key based accounts
- Accounts can add Apps, Apps can have Domains — APP.fission.app
- Encryption
- Web Login
- Fission File System



IDENTITY

- Built on public-private key cryptography
- WebAuthN now widely supported in browser (including mobile) means passwordless login
- W3C is standardizing Decentralized IDs and Verifiable Credentials
- JWT Auth and macaroons
- More: whitepaper.fission.codes/identity



(we probably shouldn't call this identity, rather authorization + authentication)



FISSION FILE SYSTEM

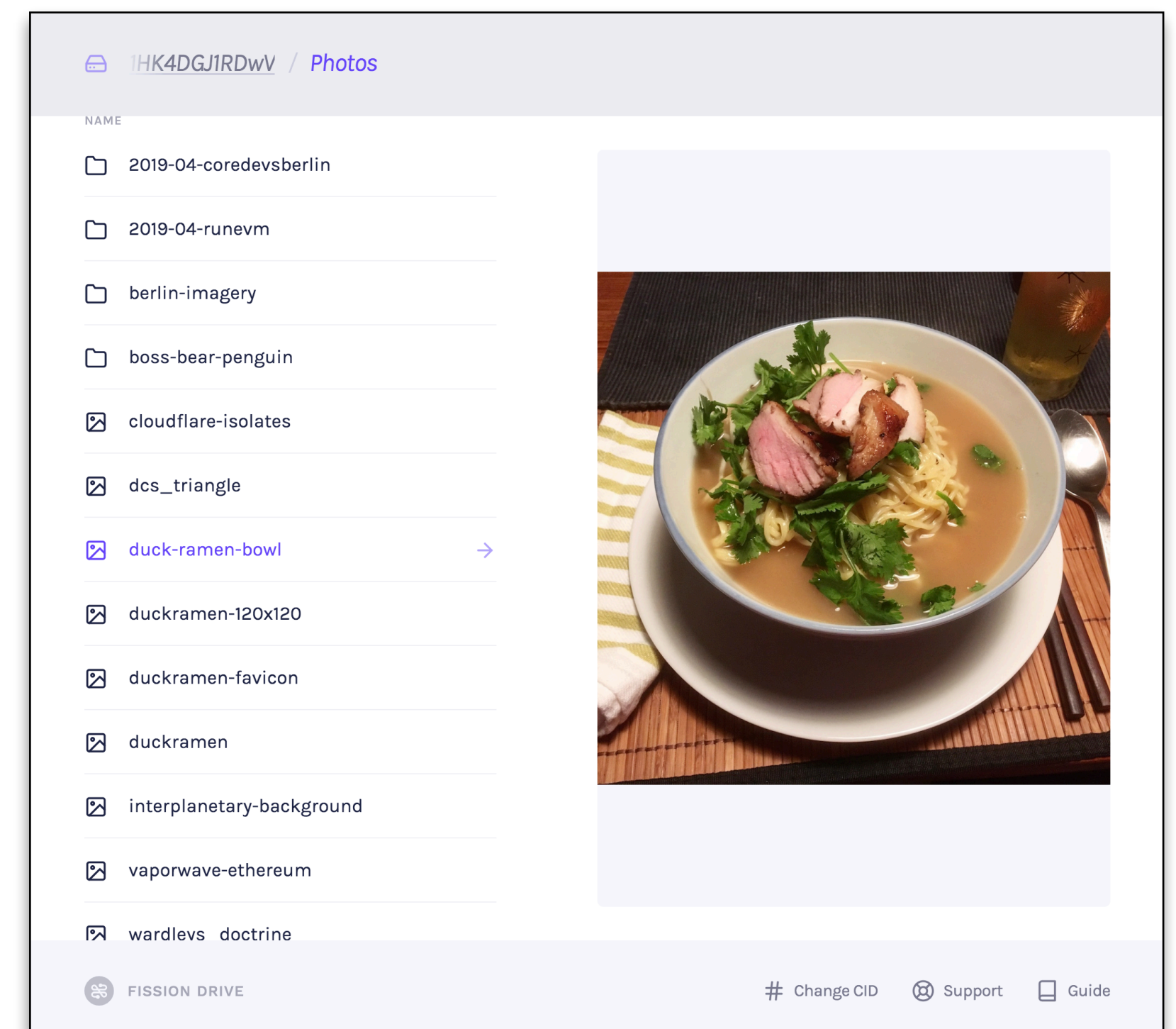
- Store the current DAG hash in DNS, eg. boris.fission.name
- Default user file tree, encrypted except for Public folder
 - Docs
 - Images
 - Music
 - Apps
 - Shared
 - Public



FISSION DRIVE

- **Our own app for end users:** early adopters and developers
- **Documents:** files, screenshots, photos, music, etc. — dotfiles?
- **App data:** per-app storage under user control — add apps to your Drive, give them permission to access your files, all client-side

Go try it! drive.fission.codes





FISSION DRIVE

- Preview release works with any public IPFS files
- Coming:
 - Private files
 - Password-less login

1HK4DGJ1RDwV / Photos

NAME

2019-04-coredevsberlin

2019-04-runevm

berlin-imagery

boss-bear-penguin

cloudflare-isolates

dcx_triangle

duck-ramen-bowl →

duckramen-120x120


duckramen-favicon


duckramen

interplanetary-background

vaporwave-ethereum

wardlevs doctrine



 FISSION DRIVE

[# Change CID](#) [Support](#) [Guide](#)



FISSION DRIVE

`IHK4DGJ1RDwV` / Photos

dcs_triangle PNG

duck-ramen-bowl JPEG →

duckramen-120x120 JPG

duckramen-favicon PNG

duckramen JPG

interplanetary-background JPEG

vaporwave-ethereum PNG

wardleys_doctrine JPG

4 Directories and 9 Files (2.83 MB)

duck-ramen-bowl.jpeg

307.95 KB

OPEN IN NEW TAB

FISSION DRIVE

Change CID

Support

Guide

AA drive.fission.codes

`IHK4DGJ1RDwV`

NAME

Documents

Ebooks

Photos

Presentations

Screenshots

Change CID

Support

Guide



CORE IPFS

- fission-suite/get-ipfs:
 - npm package to load an IPFS instance into a web-page
 - Like ipfs-shipyard/ipfs-provider, but we use ES6 syntax (and built it around the same time!)
- fission-suite/ipfs-haskell
 - Haskell package to work with local IPFS node or remote through http interface
- go-ipfs feature: "ipfs ignore"
 - We currently manage this in the Fission CLI directly (e.g. *.env*, *.ssh*, *.fission.yaml* are default ignores)
 - PR in progress to hopefully get this added upstream



INTEGRATIONS

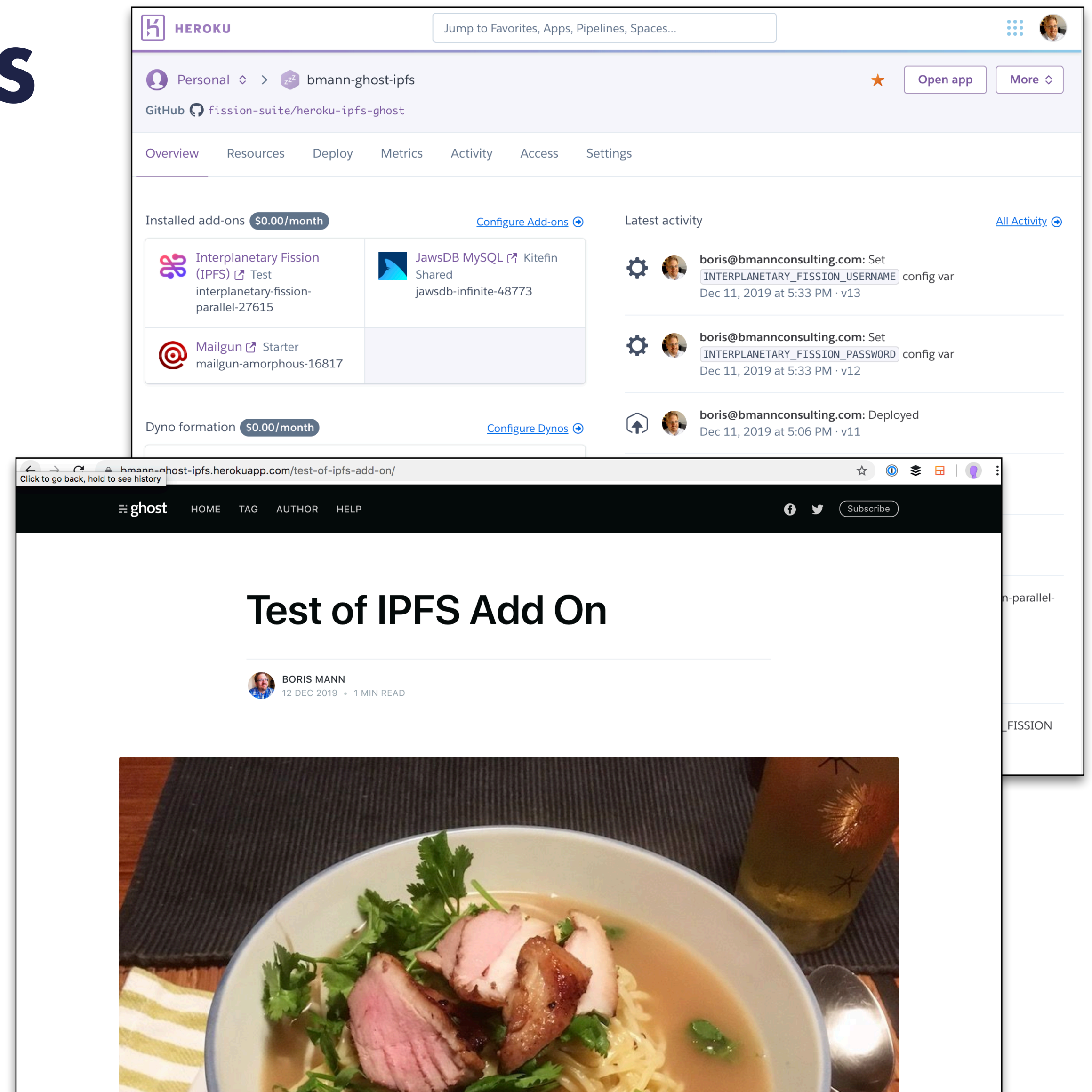
- Work with existing Web2 apps
- Provide many ways to “ingest” files into IPFS
- Make IPFS files re-usable
 - Cached everywhere
 - Sync
 - Manage on desktop






HEROKU + GHOST + IPFS

- One click Deploy to Heroku: fission-suite/heroku-ipfs-ghost
- Ghost Storage Adapter: fission-suite/ghost-storage-adapter-ipfs
- Uses Fission's Heroku add-on



fission DISCOURSE

- Discourse plugin: fission-suite/discourse-ipfs-file-store

 fission

To make launching your new site easier, you are in bootstrap mode. All new users will be granted trust level 1 and have daily email digests. This will be automatically turned off when 50 users have joined.

Dashboard Settings Users Badges Emails Logs Customize API Backups Plugins

Clear

All (4) ▶

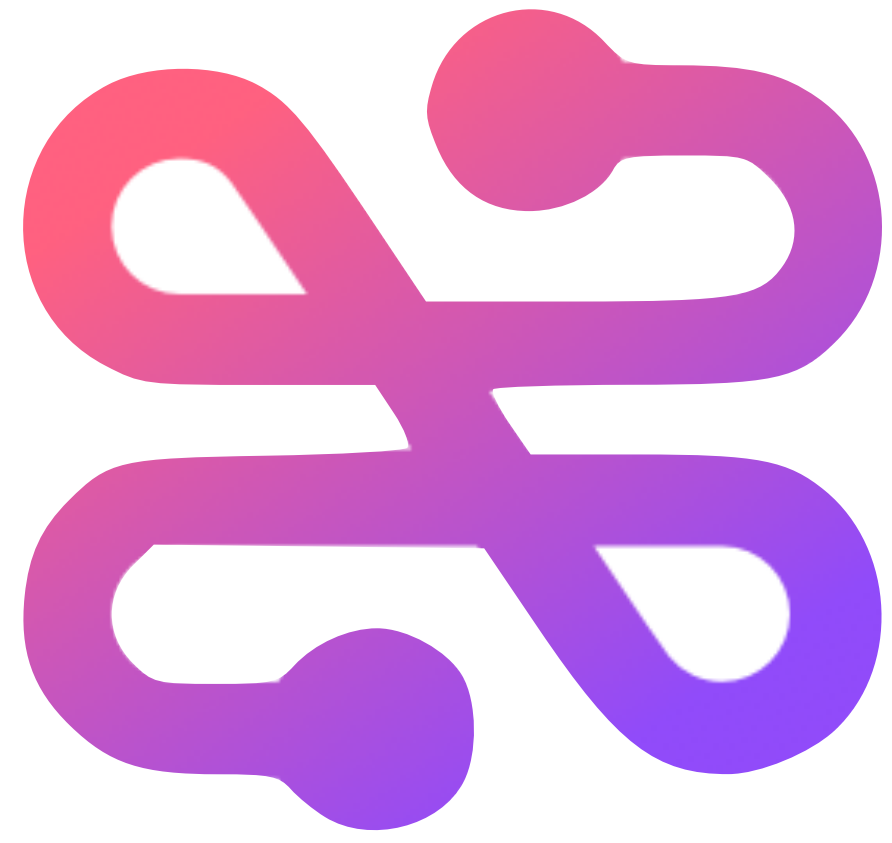
Plugins (4)

ipfs storage enabled ☐ Enable IPFS storage

ipfs storage gateway
Your IPFS Gateway domain (e.g. example.com). No http/https.

ipfs storage username
Your IPFS username

ipfs storage password
Your IPFS password



fission

THANK YOU!

Github: [fission-suite](https://github.com/fission-suite)

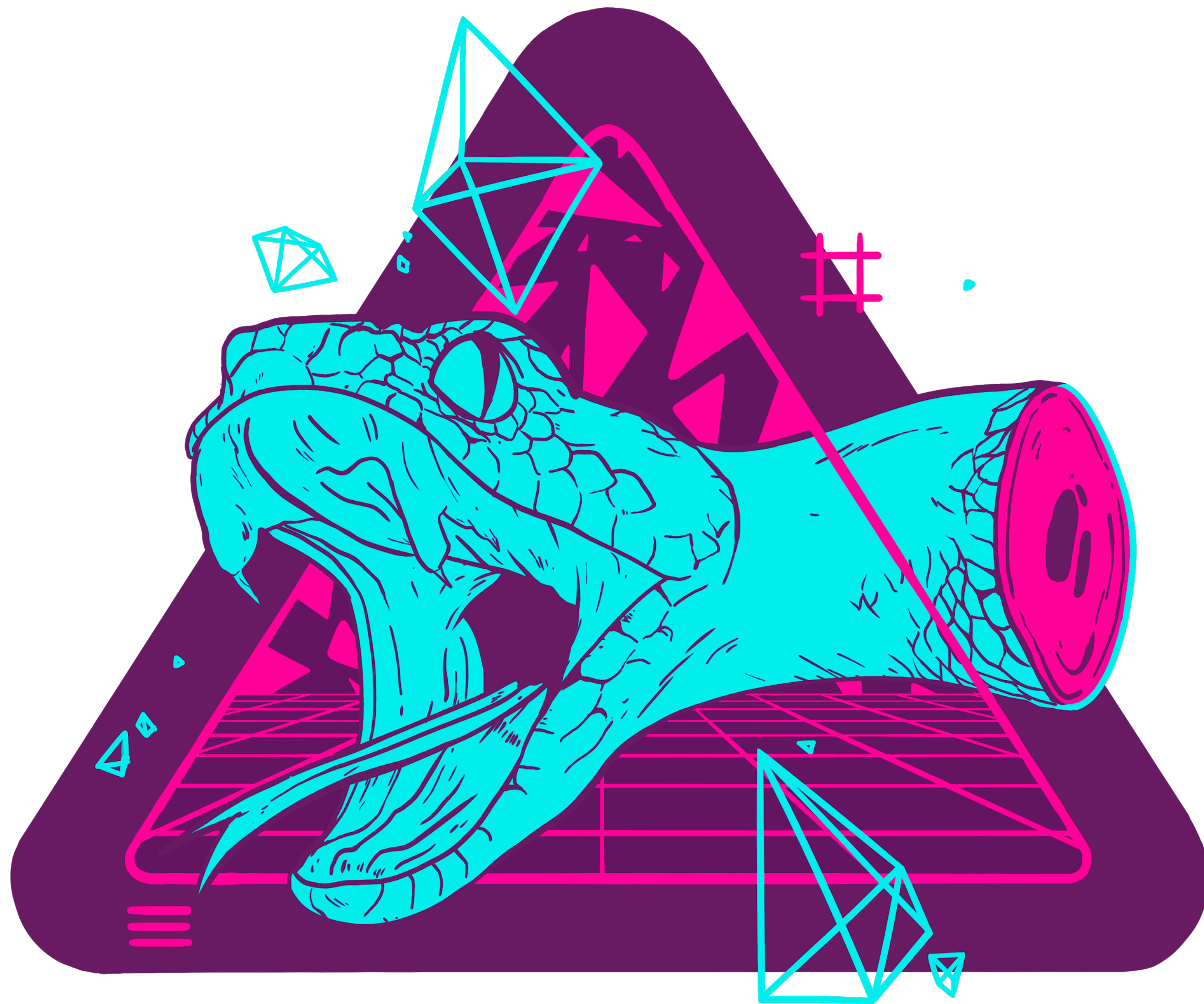
Discourse forum: talk.fission.codes

Install Guide & Docs:
guide.fission.codes

Discord chat: fission.codes/discourse

Technical Whitepaper:
whitepaper.fission.codes 🚧 🧑🏻‍🔧 ✍️

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[@bmann](https://twitter.com/bmann), [@icidasset](https://twitter.com/icidasset), [@dholms](https://twitter.com/dholms) on
[Github](https://github.com)



SCREAMING_SNAKE_CASE

GET SWAG!!!

swag.fission.codes