



Intro to Dev Tooling

Hong Kong Hackerhouse

Alex Marx • Gitcoin, Trust & Risk • April 10, 2023

Agenda–

Anatomy of a contract

“Forking” and “versioning”

GitHub Best Practices

Testing & DevOps

Cautionary Tales



Hey, we're Gitcoin 🖐️

We create solutions that empower communities to fund, build and protect what matters.

GITCOIN

Back in 2017

Bitcoin was founded with the goal of supporting the development of open source projects and monetizing open source software through bounties, manually ran via core team.

Since then

The **Bitcoin Grants Program** on cGrants has distributed **\$50M** (still manually) in grants funding to leading names in web3 including **Optimism, Uniswap, WalletConnect, POAP, Prysm, Lighthouse, ethers.js, hardhat**, and more.



BITCOIN

Today

We've sunsetted cGrants, and launching [Bitcoin Grants Stack](#), a comprehensive solution covering the core capabilities provided by our **Grants Program**, making it easier to launch, manage and grow a successful grants program, all built on top of our new Allo Protocol.

Key Dates: Beta Rounds

Mar 27

Grantee Announcement: Core & Featured Rounds (Key Dates, Link, How to Apply)

April 12 - 21

Beta Round Grants Applications open

April 22

All invited Grantee Projects announced.

April 25 - May 9

Beta Rounds Live!



Carl Cervone

@carl_cervone

...

in the long run, i think @gitcoin's biggest impact will be the connective tissue it's creating: not just between projects & funders, but also among projects and people who share the same north star ...



Steph 🦋🔵 @cryptohun3y · Apr 3

...

Tired:

Come for the network, stay for the tool. → Come for the tool stay for the network

Wired:

Come for the media, stay for the network. → Come for the network, stay for the network.



Owocki.ETH (🧑‍🚀, ❤️) 🔵

@owocki

...

- 1 proof of virtue > virtue signaling
- 2 collective impact > nihilism
- 3 cooperation over social distance > tribalism
- 4 pluralistic dialogue > mob cancel culture
- 5 networks > hierarchies
- 6 localism > globalism

from rubble of failed boomer-era social impact movements, the seeds of new regenerative web3 impact networks are sprouting 🌱🌱🌱

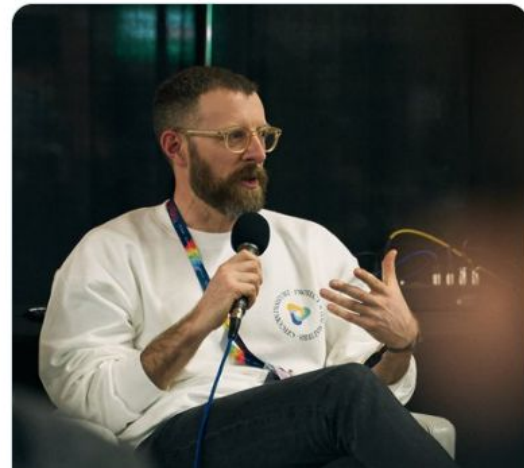


schelling point ✨ @schellingpoint_ · Mar 4

...

"Going back to reputation, I'm excited about new mechanisms going beyond Quadratic Funding & looking at the plurality space where there's consensus not just in terms of how many people have voted but who these people are & what groups they belong to." ✨

~@kevinrolsen of @gitcoin



Owocki.ETH (🧑‍🚀, ❤️) 🔵 @owocki · Mar 14

...

private goods: excludable & rivalrous

public goods: non-excludable & non-rivalrous

network goods: non-excludable & non-rivalrous AND value grows the more ppl use it 📈🌱

GITCOIN

GITCOIN



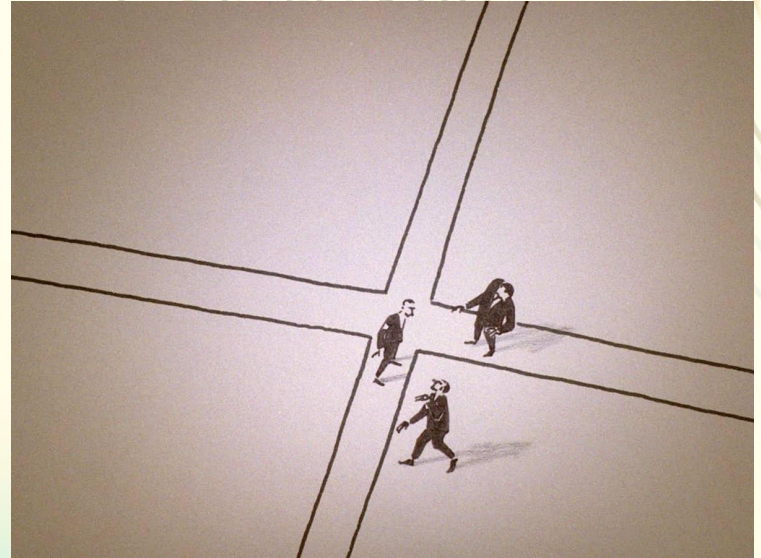
What is a smart contract (and where do I find one...)?

Forking & Versioning

Fork "A direct copy of existing code, where further edits will be made."

Version "Each change in code over time; each edit creates a new 'version' of the same codebase."

Branch "One pathway in the code; this may or may not be the 'master' branch, or a codebase which is in production; each branch may have several versions."



GitHub Best Practices

WORKING SOLO

- Comments, comments, comments!
- Sanity-checks
- Name your versions; describe what you're trying to fix
- Track your sources

WORKING ON A TEAM

- Comments, comments, comments...
- Protect your codebase requiring +1s
- File your issues, bugs, and requests all in one place to keep record
- Take advantage of the built-in project management tools + backlog tracking

Testing and DevOps

- How do we protect our code from breakage?
- How do we test our code before it goes into production?
- What does "DevOps" stand for?
- How do I execute a basic test to a smart contract?



How to get started...

GITCOIN



Ghost stories...

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Further reading

<https://ethereum.org/en/developers/docs/smart-contracts/testing/>

<https://solidity-by-example.org/>

<https://code4rena.com/reports>

<https://app.sherlock.xyz/audits/contests>

<https://swcregistry.io/>

<https://www.certik.com/resources>

Practice!

<https://www.damnvulnerabledefi.xyz/>

<https://ethernaut.openzeppelin.com/>

<https://github.com/paradigmxyz/paradigm-ctf-2021>

<https://github.com/paradigmxyz/paradigm-ctf-2022>



Thank you!

& stay in touch: linktr.ee/ale.k