Towards a Decentralized Alternative to GitHub

@onurakpolat

tomaka
@tomaka17

Decentralized web, year 5. We still don't have a viable decentralized GitHub.

> **Alex Skidanov** @AlexSkidanov · Jul 26
>
> Evidently @github has banned all the Iranian users without an ability for them to download their repositories.
>
> A service like Github must be a public good and must not be controlled by a centralized entity. Another great example of why we as a society need to make web3 a reality
>
> Show this thread

3:45 PM · Jul 27, 2019 · Twitter for Android

10 Retweets   **21** Likes

# radicle _alpha_

A peer-to-peer stack for code collaboration

Peer-to-peer

The Radicle stack builds on IPFS, and works without a centralized server. No hassle with setting up your own hosting, and no need to trust companies with your data.

Terminal-first

A Radicle project contains a git repository, plus the associated issues and proposals. Access all the issues and proposals associated with your codebase right from your terminal.
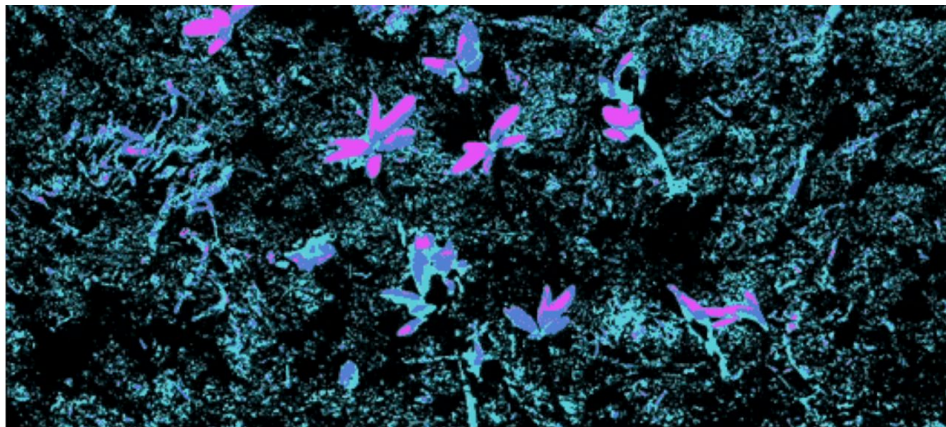
Collaborate with Radicle

Setup a project

`rad project` allows you to create, checkout, manage, and publish a project, comprised of issues, patch proposals, and a git repo.

```
$ rad project init
? What's the name of your project? radicle-garden
? Briefly describe your project? A community garden
=> Creating git repository
=> Adding "origin" remote: ipfs://ipns/12D3KooW...
```

http://radicle.xyz

A secure and decentralized network for code collaboration and value exchange in FOSS communities.

Why should you care?

Trust beyond theoretical arguments

Peter Todd
@peterktodd

Core is transparent about the list that matters: the PGP keys who can sign merge commits.

The lesson to be learned here is to not trust GitHub! Even Bitcoin Core doesn't know the full list of people who can change the repo, as that extends to probably dozens of GitHub employees.

4:23 PM · Oct 4, 2018 · Twitter for Android

7 Retweets   **36** Likes

DEVOPS

GitHub Restricts Developer Accounts in Countries Under Trade Sanctions

By Cormac Bracken
Tuesday, August 6, 2019

In a sign of the far-reaching impact of US sanctions, GitHub, the open-source software hosting service, has begun restricting the accounts of developers in regions subject to the trade restrictions including Iran, Syria and Crimea.

Alex Skidanov
@AlexSkidanov

Evidently @github has banned all the Iranian users without an ability for them to download their repositories.

A service like Github must be a public good and must not be controlled by a centralized entity. Another great example of why we as a society need to make web3 a reality

11:10 PM · Jul 26, 2019 · Twitter Web App

383 Retweets   **1.6K** Likes

Platforms dictate economics

Zed
@zedshaw

Following

The simple buttons break down to:

Buy A License: Purchase a commercial license and long term support. This is MRR for the project.

Buy Support: Get help on a single problem or bug you need solved now. This is a one time payment.

2:44 AM - 21 Feb 2018

14 Retweets **184** Likes

5   14   184

And what about GitLab?

Current state of the space
"Control or convenience"

VALUE EXCHANGE

REPUTATION

DECENTRALIZED NAME REGISTRY

P2P CODE COLLABORATION

Desired properties

1. It must protect anonymity.

2. It must be open and public.

3. It must be convenient and easy to use.

4. It must not rely on trust.

5. It must work offline.

Current state of Radicle

- **Offline first**: all data, including issues, comments and other social artifacts is yours & lives on your machine

- **Peer-to-peer**: with no central server or intermediary in control

- **Cryptographically secure**: user data that is tamper-proof & unforgeable, using public key cryptography

- **Programmable**: developers can program the way in which they collaborate

- **Interoperable & open**: reflecting the values of the open source community

So how does it work?

Setup a project

`rad project` allows you to create, checkout, manage, and publish a project, comprised of issues, patch proposals, and a git repo.

```
$ rad project init
? What's the name of your project? radicle-garden
? Briefly describe your project? A community garden
=> Creating git repository
=> Adding "origin" remote: ipfs://ipns/12D3KooW...
=> Adding issues to your project
=> Adding patches to your project
=> Project created with id: 12D3KooW...
```

Manage issues

`rad issue` allows you to view, create, and comment on issues directly from your project directory.

```
$ rad issue list
#   state    title               author    updated
1   open     Patch not accepted  celia     2019-01-25 13:27
O   closed   How do I contribute?  alex    2019-01-25 09:14

$ rad issue comment 1 "probably the wrong dimensions"
Added comment to issue #1
```

Propose changes

`rad patch` provides a simple system for proposing and discussing changes to a git repository.

```
$ rad patch list
#  state       commit              author     updated
1  pending     Make docs friendlier   vera       2019-01-25 13:27
O  accepted    Typo fixes             jules      2019-01-25 09:14

$ rad patch accept 1
Merging proposal #2 with master
```

Radicle Garden

Welcome! This is a community space where you
can add a garden by trying the Radicle tutorial.

Follow the tutorial 🌱 →

```
accredion

oo   k
x  __   x
e  = \   ---
       /_  k!
k=1

e
d

waz
here

TACHYON
SOFTWARE

--fwip

jonathan.is

sfpc  itp
nycr rc

/_  ~micro___dc/

DECENTRALIZE
`ALL THE`
`THINGS`

file
open
new
quit

joseph.gl/
```

```
onur@onr-xps-00:~$
```

Current Limitations

- Can't send *writes* to a project when the owner is offline

- Reliance on IPNS makes things slow

- IPNS entries need a refresh every 24 hours

- Arbitrary state-machine replication is hard to scale

- End-user experience still lacking

- No canonical way to discover other projects

👈 VALUE EXCHANGE

REPUTATION

DECENTRALIZED NAME REGISTRY 👉

P2P CODE COLLABORATION

A decentralized name registry

- **Canonicity** / Accessibility. Example: canonical human-readable names

- **Security** / Immutability: Example: On-chain maintainer list and checkpointing

MAR 2019	APR 2019	MAR 2020	Q2 2020	Q4 2020
radicle alpha	oscoin whitepaper release	oscoin testnet name registry	radicle beta	oscoin mainnet

Thank you ✌️

@onurakpolat