Assembling Freedom #12

By: 256 Foundation
A monthly newsletter

December 2025

256 FOUNDATION

INTRODUCTION:

Before you read any further, sign the petition to pardon Samourai Wallet. Software developers should not be held accountable for the actions of end users. That is a very basic and reasonable position to hold, so if you agree then show your support by joining the thousands who have taken a stand to pardon Samourai Wallet.

Welcome to the Twelfth newsletter produced by The 256 Foundation and supported by Proto! This will be the last *monthly* newsletter and will move to a weekly cadence after January 1, 2026. Massive shout out to Proto for their support over the last 12 months! We have been refining the format of this newsletter to try and maximize the focus on signal. Below you will find short descriptions on a number of freedom tech topics spanning last month that are centered around open-source Bitcoin mining.

FREEDOM TECH NEWS:

In this edition, we delve into the intricate world of Bitcoin mining and open source hardware, exploring the latest developments and their implications for the industry.

Canaan's Open Source Move:
Canaan has open-sourced a new repository on GitHub, revealing the source for their Avalon miners' firmware. This move towards transparency is significant, as it opens up possibilities for innovation and collaboration within the community. The release under the BSD3 clause license, however, raises questions about compatibility with existing open-source licenses like GPL-V3. Being that Canaan is a distant third in the mining hardware marketplace, there really is only upside for them to embrace open-source and get community contributions.

RISC-V and the Future of CPUs:
This discussion leads to Canaan's K230, a dual-core RISC-V processor. This development is noteworthy as it represents a shift towards more open and customizable CPU architectures, potentially revolutionizing the way developers approach hardware design.

The Role of Open Source in Home Mining:
With home mining products accounting for a significant portion of revenue, the push towards open-source solutions is not just a trend but a necessity. This shift is crucial for fostering innovation and ensuring that the community can build upon existing technologies without being hindered by proprietary constraints.

Hydra Pool and Decentralized Mining:
The introduction of Hydra Pool, an open-source Bitcoin mining pool, marks a step forward in unstoppable mining operations. This tool allows users to run their own mining pools, promoting a more distributed and resilient network.

The Legal Landscape for Open Source Developers:
This ties-into the legal challenges faced by open-source developers, particularly in the context of the Samourai Wallet case. Highlighting the need for clear legal frameworks that protect developers and encourage innovation. More details on this below.

Bitcoin Veterans and Telehash Event:
Recently, Nashville hosted the Bitcoin Veterans, a group dedicated to integrating veterans into the Bitcoin community. Their event highlighted the potential of Bitcoin as a tool for empowerment and financial independence. The discussion touched on the technical aspects of Bitcoin mining, including the challenges and opportunities of pooled mining and the impact of hash rate fluctuations.

Square's Lightning Integration:
Square's roll-out of Lightning integration marks a significant step in Bitcoin's mainstream adoption. This move allows for seamless Bitcoin transactions, enhancing user experience and encouraging more merchants to accept Bitcoin. This article explores the technical nuances of this integration and its potential to revolutionize digital payments.

Hashrate Heating Systems:
The innovative use of Bitcoin mining hardware for heating systems was a focal point in November. This approach not only optimizes energy use but also provides a sustainable solution for heating needs. The technical details of

integrating mining hardware with existing heating systems were discussed widely in the budding community on the [Heat Punks Forum page](#), showcasing the potential for cost savings and environmental benefits.

256 Foundation's Open Source Initiatives:
The [256 Foundation](#) is at the forefront of dismantling proprietary mining empire by promoting open-source Bitcoin mining hardware and software. Our projects, such as the Ember One, Mujina, Libre Board, and Hydra Pool aim to open-source the whole Bitcoin mining technology stack, making it accessible to anyone from individuals to small communities to industrial-sized miners. The technical intricacies of these projects were explored in depth on [POD256](#) throughout the month, highlighting their potential to decentralize mining and empower users.

The Rise of Open Source Mining:
We delved into the significance of open source mining firmware like Mujina, highlighting its potential to revolutionize the industry by offering transparency and control to miners. This shift is crucial as it challenges the proprietary stronghold of major manufacturers, fostering innovation and collaboration.

Bitcoin++ Event Insights:
The Bitcoin++ event was a melting pot of ideas, bringing together developers and miners. The event underscored the importance of bridging the gap between these communities, emphasizing the role of open source in democratizing mining technology. We announced the Developer Preview of Mujina Mining Firmware is now open to the public, learn more on the [GitHub repo](#).

The Battle for Tech Freedom:
Our conversation touched on the broader implications of freedom tech, particularly in the context of software development. We discussed the challenges faced by developers in maintaining privacy and autonomy in an increasingly regulated environment.
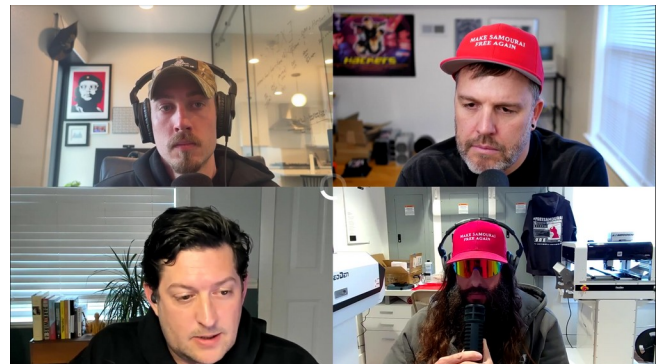
Innovative Power Solutions:
The discussion also covered creative solutions for powering mining operations, from using electric vehicles as mobile power sources to the potential of integrating mining with everyday appliances.

Community Contributions:
We celebrated the contributions of community members who are pushing the boundaries of what's possible with open source tools, showcasing the power of collaboration in driving technological advancements. There have been some pull requests in the [Hydra Pool repo](#), and a few community contributed repos to the 256 Foundation GitHub Organization like [asic-rs](#).

The Case of Samourai Wallet:
The recent unprecedented attack on William (Bill) Hill and Keonne Rodriguez, co-founders of Samourai Wallet underscores the ongoing regulatory battles in the crypto space. In November, Keonne Rodriguez joined us on [POD256 #96](#) to tell all. The discussion provided a deep dive into the legal and technical aspects of the case, emphasizing the importance of protecting open-source developers and the broader implications for the crypto community.

We explored the vicious attacks by federal prosecutors at the SDNY faced by Bill and Keonne for a non-custodial Bitcoin wallet. Despite being an open-source and permissionless tool for financial privacy, it was labeled as a money transmitter by federal prosecutors who had to lie, cheat, and hide evidence to get their way. This case highlights the tension between innovation and regulation, emphasizing the need for clear legal frameworks that recognize the role of technology in protecting privacy and ensuring that tool makers are not held liable for the actions of end-users.

The Role of Privacy Tools:
Privacy-enhancing technologies like CoinJoin and Whirlpool were discussed as essential tools for maintaining financial privacy. These innovations allow users to control their funds without exposing their private keys, challenging the notion that privacy equates to criminality. The

conversation underscored the importance of these tools in empowering individuals against unwarranted surveillance.

Legal Precedents and Challenges:
The discussion touched on historical legal precedents, such as the Falcone case, which set standards for conspiracy charges. These precedents are crucial in understanding the legal landscape for developers and innovators. In Falcone, the United States Supreme Court found that a merchant who sold sugar to a bootlegger during the prohibition was not an active conspirator in the crime even though they had vague knowledge that the sugar would be used to produce alcohol. The conversation also highlighted the challenges of defending technological innovations in court, where the burden of proof often falls heavily on the creators but corrupt judges prevent the jury from hearing it.

Community Support and Advocacy:
The importance of community support in defending technological rights was emphasized. The conversation called for a collective effort to support open-source developers and protect the tools that enable privacy and freedom. This is a pivotal moment for the tech community to rally together and advocate for fair treatment of innovators. If you have not done so already, please sign and share this petition to pardon Samourai Wallet.

Future Implications:
The broader implications of these discussions are clear: as technology continues to evolve, so must our understanding and defense of the rights it can protect. The conversation serves as a reminder that technological innovation is not just about advancement but also about safeguarding the freedoms we hold dear. Let's continue to champion the role of technology in protecting our rights and freedoms, code does not equal crime.

CONCLUSION:

Join us in our mission to advance open source technology and Bitcoin adoption. Your support is crucial in driving these innovations forward.

Key Takeaways:

Open-source hardware and software are pivotal in driving innovation and decentralization in the Bitcoin mining industry. Legal clarity and support are essential for fostering a thriving open-source ecosystem. The community's role in testing and developing new solutions is more critical than ever.

Stay Informed and Engaged:
We invite you to join the conversation and contribute to the ongoing development of open-source solutions. Your insights and expertise are invaluable in shaping the future of this industry.

Subscribe now to stay updated on the latest developments and be part of a community that is driving change.

Live Free or Die,
-econoalchemist