In this article, we will go through the top web3 tools for developers as well as the platforms and strategies a smart contract developer needs to be familiar with to be a successful.

Before getting started, if you're looking to level up your web3 career, navigate to updraft.cyfrin.com and get access to 50+ hours of industry-leading web3 development courses,completely for free. ADD LINK

1. Language: Solidity or Vyper

In this list of best web3 tools for developers, we could not take a second to mention the most popular smart contract programming languages.

Solidity remains the dominant language, with about 94% of all smart contract value flowing through it. This is actually up about ~7% from last year, which is a bit surprising considering all the advancements Rust, Huff, and Vyper made this past year.

As far as languages go, Solidity and Rust continue to dominate, and we expectVyper to gain a lot of traction this year. Last year, they had an unfortunate event with an issue with reentrancy locks, but it's resulted in a massive turnout by the community to show up for Vyper to improve it. We've seen some PRs introduced for stateful modules, they have started doing competitive audits, and other major jumps for the language seem to be in the works.

2. Framework: Foundry and Hardhat

Foundry and Hardhat return from last year's best web3 developer tools leaderboard as our top 2 frameworks.Brownie is still a fantastic framework, but it has slowed down to being in maintenance mode. Apeworx is working on gaining feature parity to be the new Pythonic framework but isn't quite at Brownie's level yet.

Hardhat still has the most repos using it, but this year, we saw most new projects come out of the gate with Foundry. Why?

- Faster testing by a factor of 20
- Built-in fuzz tests
- Deployment improvements

But really, the speed of Foundry is pushing it to the top. At Cyfrin, we've seen most new projects looking for security reviews using Foundry, and most projects looking for competitive audits also using Foundry.

Foundry is going to be the go-to tool for new projects in 2024. For both developers and security researchers.

For Vyper buffs, I expect to see more adoption out ofTitanoboa, which you can think of as "The Foundry of Vyper." Built by the Vyper core team themselves, it offers testing and execution much in the same way Foundry does, but for Vyper.

And of course, Truffle finally said goodbye to us this year. RIP Truffle. You will not be missed, but you will be remembered as being the starting framework for many people in web3.

3. Smart contract essentials: Chainlink and OpenZeppelin

Chainlink and Openzeppelin continue to be among our top web3 tools every developer should be aware of. They both continued to ship great products this past year:

- Openzeppelin v5.0 recently dropped
- Chainlink CCIP (bridging)
- Chainlink Data Streams (low-latency oracles)
- Chainlink Functions (Custom API calls)

And continue to be the go-to resources for solidity extendable contracts (OZ) and oracles (CL). Chainlink CCIP in particular should be paid very close attention to, as it's going to bring about a new age of cross-chain dapps.

Solady has been building for over two years for other essentials, and should not be discounted. While their contract library is smaller than Openzeppelin's, they have a ton of gas-optimized contracts that new projects should check out as an OZ alternative.

We are also seeing an uptick in:

- [Rust-based contract excitemen

](#)t on

[Solana

](https://solana.com/)and Arbitrum stylus

- [ZK tooling/languages

](https://www.cairo-lang.org/)like Cairo and

[Noir

](https://medium.com/aztec-protocol/introducing-noir-the-universal-language-of-zero-knowledge-ff43f38d86d9)

And we expect to see more development here as well.

4. Web3 tools: Wallets

Web3 wallets have been getting an upgrade, for dapp developers, too. The Paradigm team came out withRivet this year which allows for developers to interact with their front-ends MUCH easier than with a traditional wallet. You can watch the video here to learn more:

Not only that, we are seeing wallets level up in general:

- Metamask launched snaps this year, enabling customization of the wallet
- Rabby has been a wallet I've been enjoying more and more due to how many checks it seems to have on my transactions
- Trezor being one of the only open-sourced hardware wallets in the game launched its Trezor 3

Wallets are leveling up.

And finally, everyone should use a multi-sig likeSafe. If you want to read more on the Cyfrin team's high-level recommendations on wallets for you, take a look at our full guide on the best wallets to store your assets

5. Web3 tools - Security

This year, we saw massive strides in security. ADD LINK

Competitive audit platform CodeHawks launched with Developer and Security course Cyfrin Updraft to level up everyone's knowledge of web3 security, give auditors a place to level up, and give protocols a place to squash bugs!

Additionally, we saw a lot of tooling in certain techniques get more exposure.

Fuzzing

Cyfrin security researcher Dacian did a deep dive on fuzzing tools.

The top tools (in order) according to Dacian are:

- Medusa (experimental)
- Echidna
- Foundry

And are a requirement for all web3 projects in 2024. If you don't have any fuzz tests, your codebase is not done.

Formal Verification

We see formal verification get the love it deserves, with tools like:

- Kontrol
- Certora (Who transitioned into a freemium model!)
- Halmos

- HEVM

And we are seeing projects start to use FV and treat smart contracts like hardware. If they break, it’s not ok!

Summary

So those are our five top tools that you need to be aware of for this year. I hope you learned something. We hope you’re using the tools that best get the job done.

We made a lot of progress this year, time to go even farther.