



**the gig
economy for
developers**

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Engi is a decentralized economic runtime for professional software engineering. This lightpaper serves to elucidate the capabilities of the network, experience of the product, and methodology of the protocol's development.

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/ Why Engi?

There is an accessibility problem in professional programming.

Technology businesses spend enormous energy, time, and money acquiring the necessary technical talent to build their products. Teams of recruiters and key stakeholders use expensive platforms and spend months sourcing, interviewing, and negotiating only to fill a single role. Visa restrictions, time zones, and lengthy legal paperwork further hinder this costly process.

Yet, for developers, these same opportunities are often inaccessible. Tedious applications, long commutes, unreliable clients, and, in some cases, unjust prejudice divorce capable coders from a digital economy in which they are so desperately needed.

Millions of unfilled jobs and billions in unearned income slow innovation and stifle opportunity.

What if it took minutes, not months, for global professional to start building product? What if quality work was *always* exchanged for fair pay? What if there were no interviews, no commutes? What if coding was flexible and unique every day? And what if it was free?

A digital labor marketplace without limits.

Code is oil of our modern and future economy; Engi's design is to simplify and facilitate the relationship between those who produce and consume it.

/ Engi Jobs

The central atomic unit of the Engi marketplace is the **Engi Job**. On traditional talent marketplaces, jobs are specified loosely in prose, such as “Python Developer Wanted” or “Need iOS App Coded.” On Engi, jobs are defined precisely as *programs*. Each Engi Job contains within it the ability to determine the correctness, performance, scalability, and maintainability of the coding work submitted for it and automatically distribute payment.

What is it made of?

€ \$ENGI

One of the ways Engi eliminates trust from software work relationships is by requiring jobs to be pre-funded. Freelancers, flaky clients are a thing of the past.



A version controlled repository

An **Engi Job** is an editable incomplete codebase such as an open-source library or application. Developers download job files and start coding immediately.



At least 1 failing test with performance, linting, and/or style requirements

Tests, linters, formatters, performance benchmarks, coverage percentages, bundle size diffs and more allow product teams to precisely encode a feature or bugfix's Definition of Done and let Engi do the rest.

```
Npm test: adds 1 + 2 to equal 3
```

```
1: test('adds 1 + 2 to equal 3', () => {
2:   expect(sum(1, 2)). toBe(3);
3: });
4:
```

Cargo test: create job works 12 attempts ✓ 1 solved

10 kb 2 hours

What files can you edit?

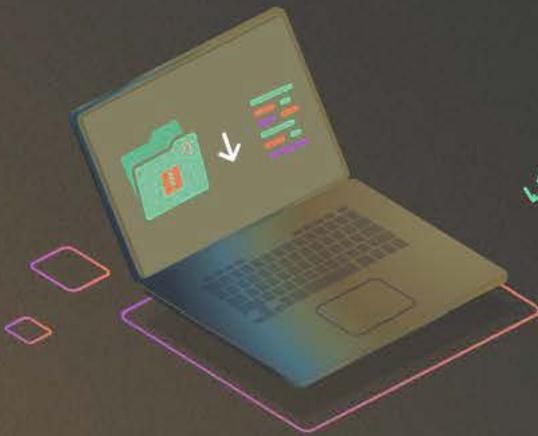
<input checked="" type="checkbox"/> Subdirectory ▾	json	3,4 KB
<input type="checkbox"/> Another Directory ▾	json	3,4 KB
<input type="checkbox"/> Buried Directory ▾	json	3,4 KB

/ How does it work?

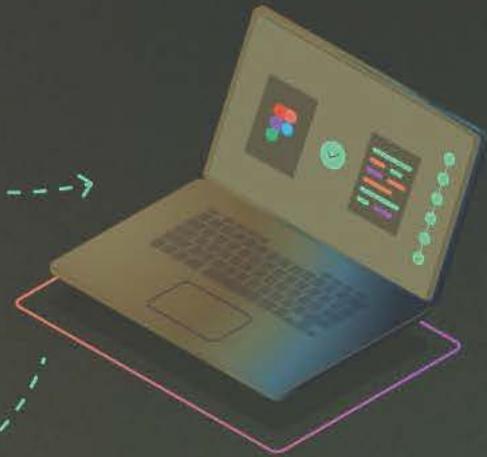
Businesses upload a codebase with at least one failing test and funding to the network



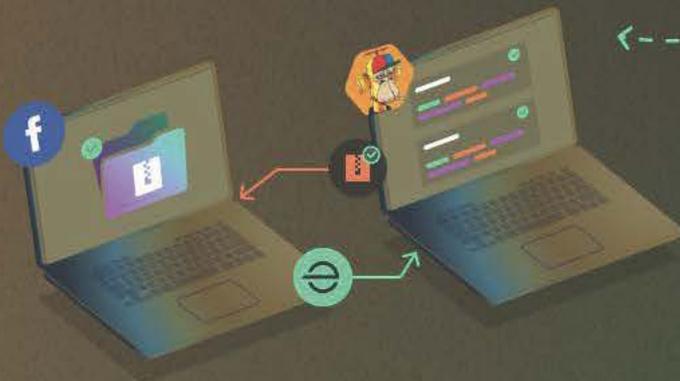
Engineers download the job files and start writing code



Uploaded submissions are evaluated for correctness, performance, and style



Complete code is distributed back to the codebase as a pull request, and the winningest developer is awarded their payout automatically



/ Flexible, Fast Freelancing

As a freelance software **Engi**neer, you're empowered to work the way *you* want. Whether you're an early bird or a night owl, a homebody or a digital nomad, the quality of your code is all that matters. Grow a broad technical skillset developing new and interesting software everyday - gone are the days of career stagnation and "pigeonholing." Consistently earn cash coding, full or part-time, without bosses, work hours, meetings, or commutes. Engi puts the **free** in freelancing.

For technology businesses, Engi's global 24/7 talent network gives you unparalleled access to engineering resources that are unrestricted by borders and timezones. You'll receive quality code that is correct and performant while conforming to your codebase's style guides and never introducing regressions. Without sourcing, recruiting, negotiating, and onboarding, you'll save precious time and money. Finally, **on-demand software engineering** firepower at your fingertips.

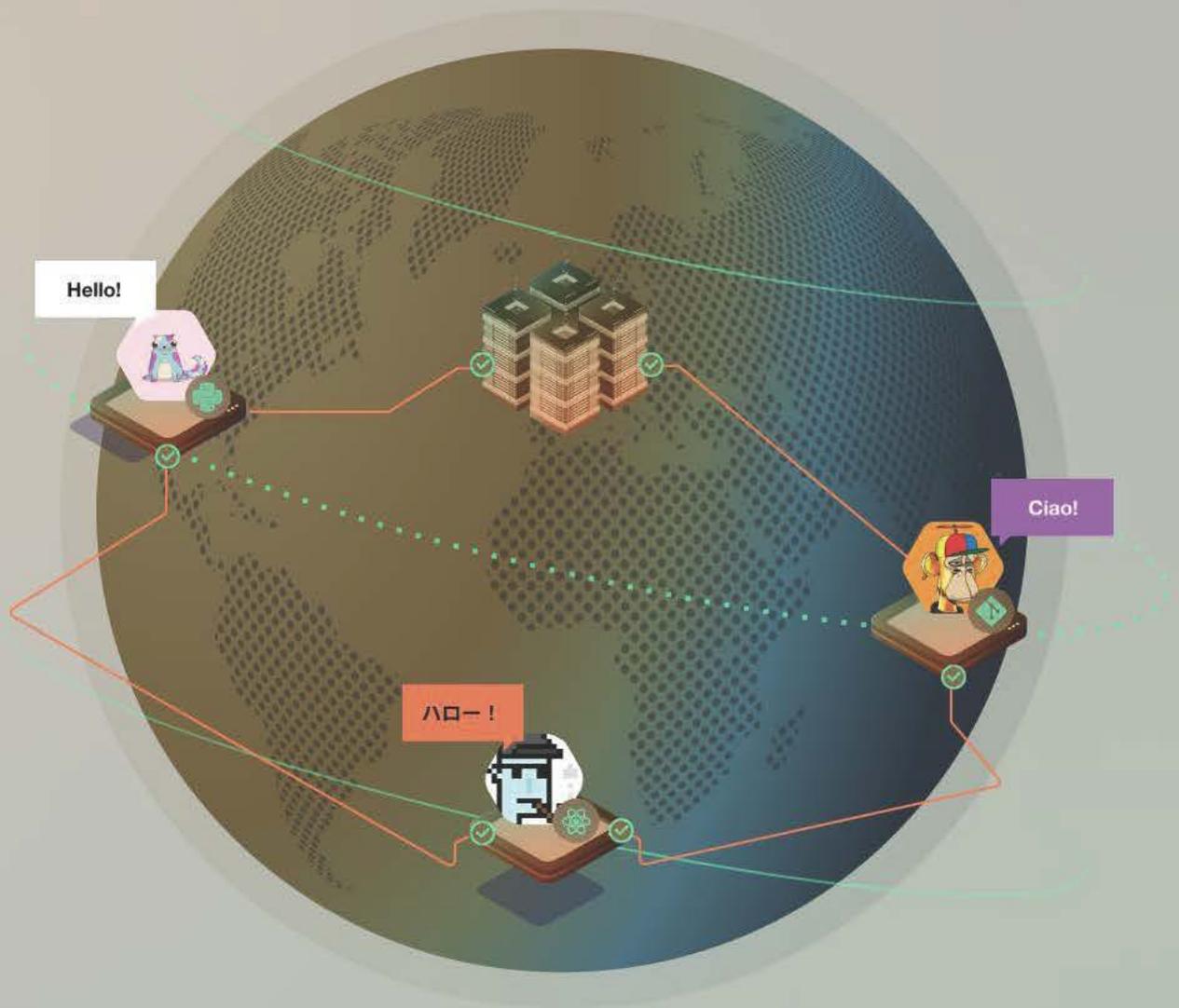


/ Blockchain

Engi's trustless labor economy is implemented as an open-source sovereign blockchain written in Rust powered by Substrate.

Its native labor token, rich smart contract ecosystem, extensible runtime, support for automation, and integrated consensus model unlock a new world of decentralized development (DeDev).

On-chain governance dictated by marketplace participants ensures the future of digital labor dynamics is a creator economy built by and for coders.



/ Consensus

➤ Engi's hybrid consensus model combines Proof of Stake and a new Proof of Useful Work variant called *Proof of Engineering* to democratically determine block finality, transaction integrity, and Engi Job completeness.

Proof of Engineering

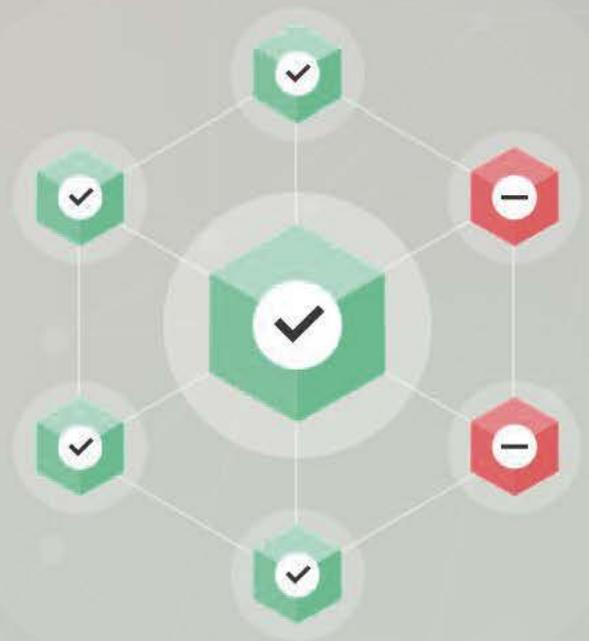
Engi nodes perform economically meaningful work to establish trustworthiness within the network. Inside sandboxed local enclaves, secured by Intel SGX, nodes execute job submissions and report results.

Blocks authored by nodes are finalized when the network determines that for each Engi Job submission executed, it ran the same steps and reached the same conclusions as the rest of the network.

Proof of Stake

If a node reaches a minority conclusion, such as reporting that a job submission passes a test when the super-majority determined that it didn't, it is punished and the stake is slashed.

This mitigates both intentional attacks that attempt to subvert accurate labor output conclusions and damaging consensus contributors running faulty hardware.

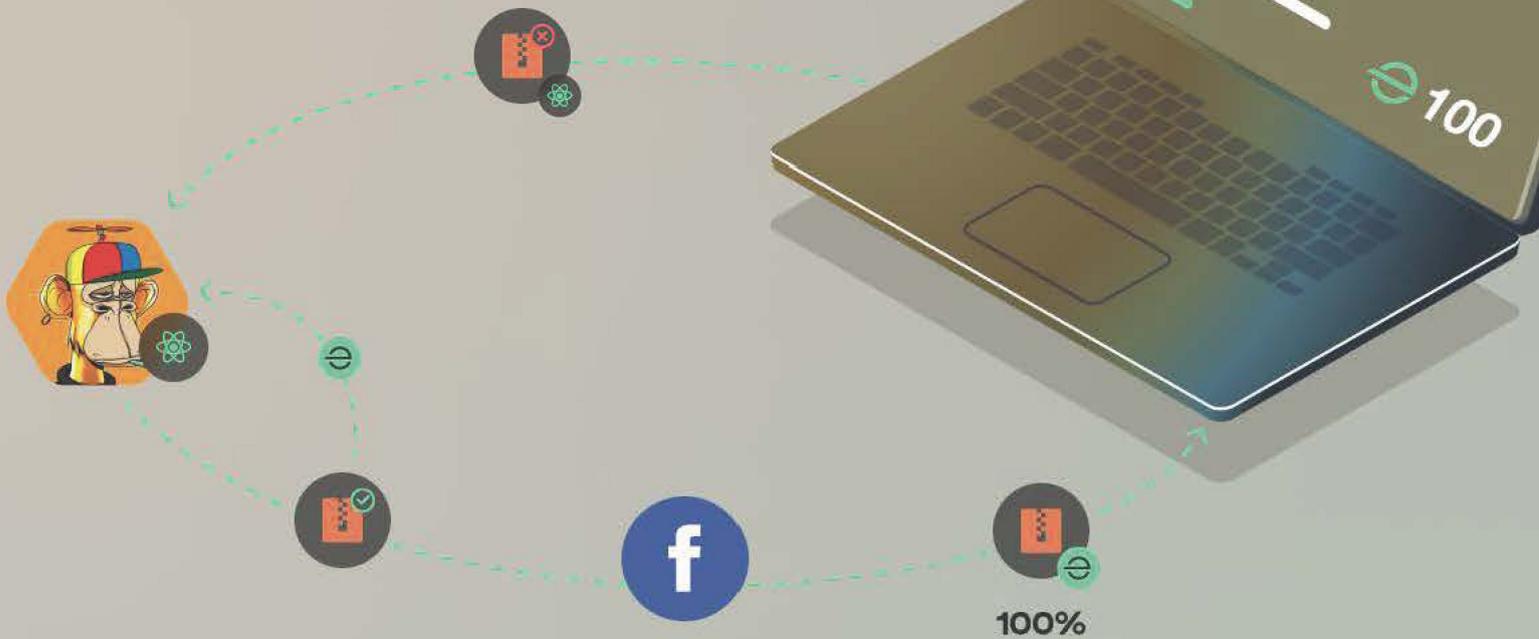




/ \$ENGI

The native inflationary currency of the network, **ENGI**, is used by technology businesses to pay software engineers for custom software. It also funds bots, pays for smart contract computation, and governs the development of the protocol.

As a programming labor token, ENGI is also an instrument to invest in the global commodity of *code as an asset*.



Yield

Engi conservatively and strategically reinvests job deposits before they are paid out to developers upon job completion. Yield generated through this mechanism allows for Engi to be *offered entirely for free* to both businesses and developers. Therefore, **100%** of the ENGI deposited to a job is ultimately paid out to programmers.

/ Smart Contracts

➤ With support for the WASM compilation target, including DeFi and DApps written in Rust, the Engi blockchain supports endless opportunities for smart contract developers.



Perpetually Fund Software Projects

Code Coins

With only a few lines of code, library and SDK authors can continually fund their projects by deploying token contracts that integrate with Engi's job runtime. For example, extend an ERC20 contract to burn and distribute tokens whenever your library is used in a winning job solution.

Automated Passive Income

Engi Bots

Developers are given a custom pre-trained coding bot that can be fueled with ENGI and will attempt to complete jobs autonomously. Your successful coding submissions will retrain the bot, improving it over time. A personalized coding clone to earn passive income.

App Store for Developer Tools

Decentralized Developer Tools

During the course of professional life, developers create valuable configuration files, development scripts, and tools that make writing code faster and more efficient. Engi provides a first-class ecosystem for buying & selling developer tools that *pay creators per-use* and seamlessly integrate with Engi's labor runtime.



/Progress Pays



Minimum Wage

Engi is a competitive network. Jobs are comprised of containerized assertions and are completed when a submission by a developer makes all failing tests pass. Thankfully, successful coding work done while a job is still active is paid *per passing assertion*. Even if your submissions didn't complete the full job requirements, you'll still earn \$ENGI.

Winners

Coding speed, solution performance, and code quality are all that matter at Engi. As the first developer to submit a solution that satisfies all encoded requirements, you are awarded the winning payout and the majority of the job's funding. Your code is distributed to the business as an anonymous pull request and the job is closed.

Honors Bracket

Engi Jobs can contain many tests. When a developer makes significant progress passing them yet is still not first to complete the job, they are awarded an extra bonus.

/ Governance

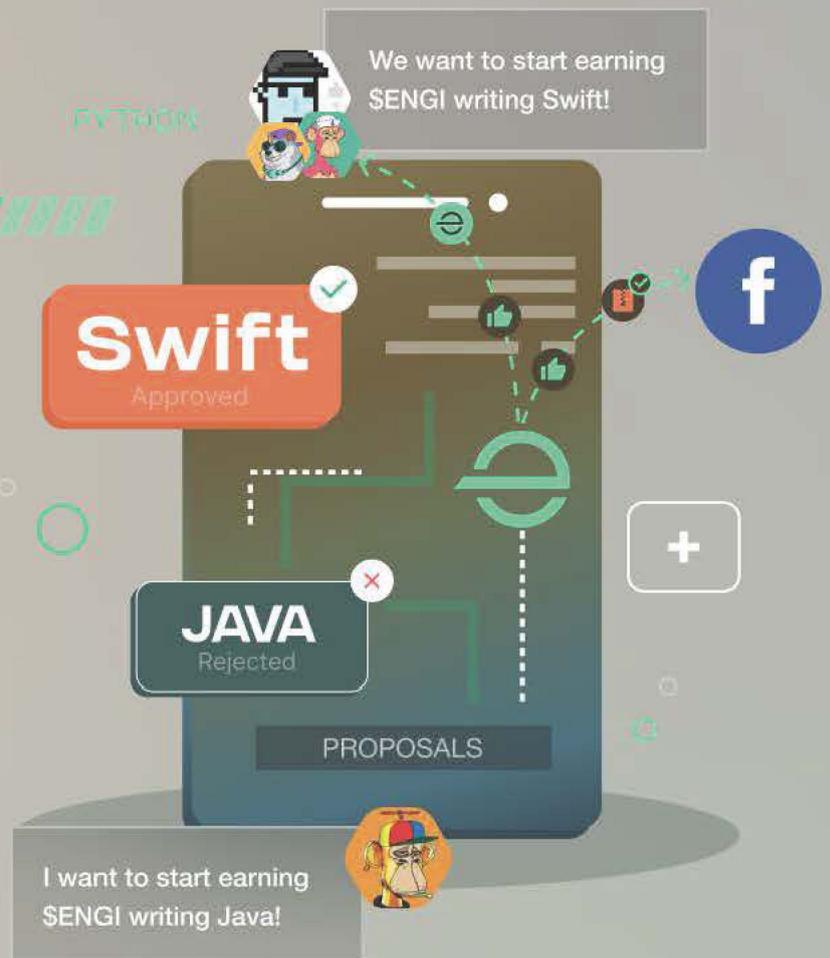
Built by Developers, For Developers

The EngiDAO

Engi is user-owned and user-governed. Marketplace participants acquire voting power through the usage of the platform. When an Engi Job is successfully completed, influence is awarded to the business that created the job and the developers who earned ENGI coding its solution.

On-chain upgrades and governance where passing proposals themselves are expressed as Engi Jobs create an economy with dynamics determined by its users - gone are the days of corporate puppeteers.

Governance proposals cover nearly everything Engi does including what technologies are supported by the job runtime, the integrated capabilities of smart contracts, taxation on automation, gas fees, and more.



Engi Holdings, Inc.

The corporate entity, Engi Holdings, is the forever champion of the marketplace who show up every day to maintain and improve the network for all who use it. It serves to ensure regulatory compliance and manage a safe and transparent reinvestment strategy that allows for these products to be offered for free, always. The Engi team itself uses the network to build core protocol code and therefore participates in governance alongside the DAO.

Engi's mission is to accelerate technological innovation and expand global opportunity through readily available and accessible engineering work for anyone, anytime, and anywhere.

While much progress remains to be had in access to hardware and education, low-cost devices and high-quality free online coding education bring us far. Now with a flexible, fair, and barrier-less digital labor economy even the sky is no limit.



< Write Code
Get Paid />

