

Cobots, dark factories and Architecting For AI



<https://www.flickr.com/photos/maitreyoda/7856293086/>

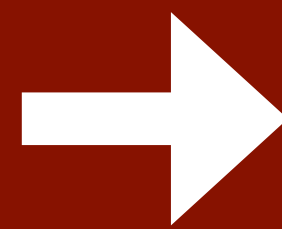
The background is a solid blue color with large, white, organic, and flowing shapes that resemble stylized waves or abstract forms. These shapes are positioned primarily on the right side and top of the image, creating a dynamic and modern aesthetic.

Uncertainty

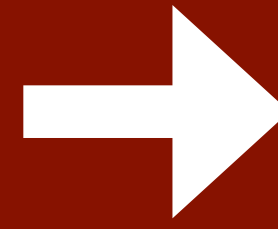
Robots

Modules

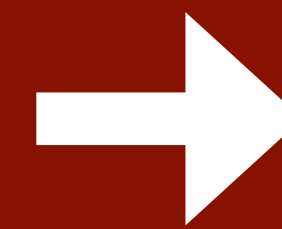
Machine
Code



Assembly

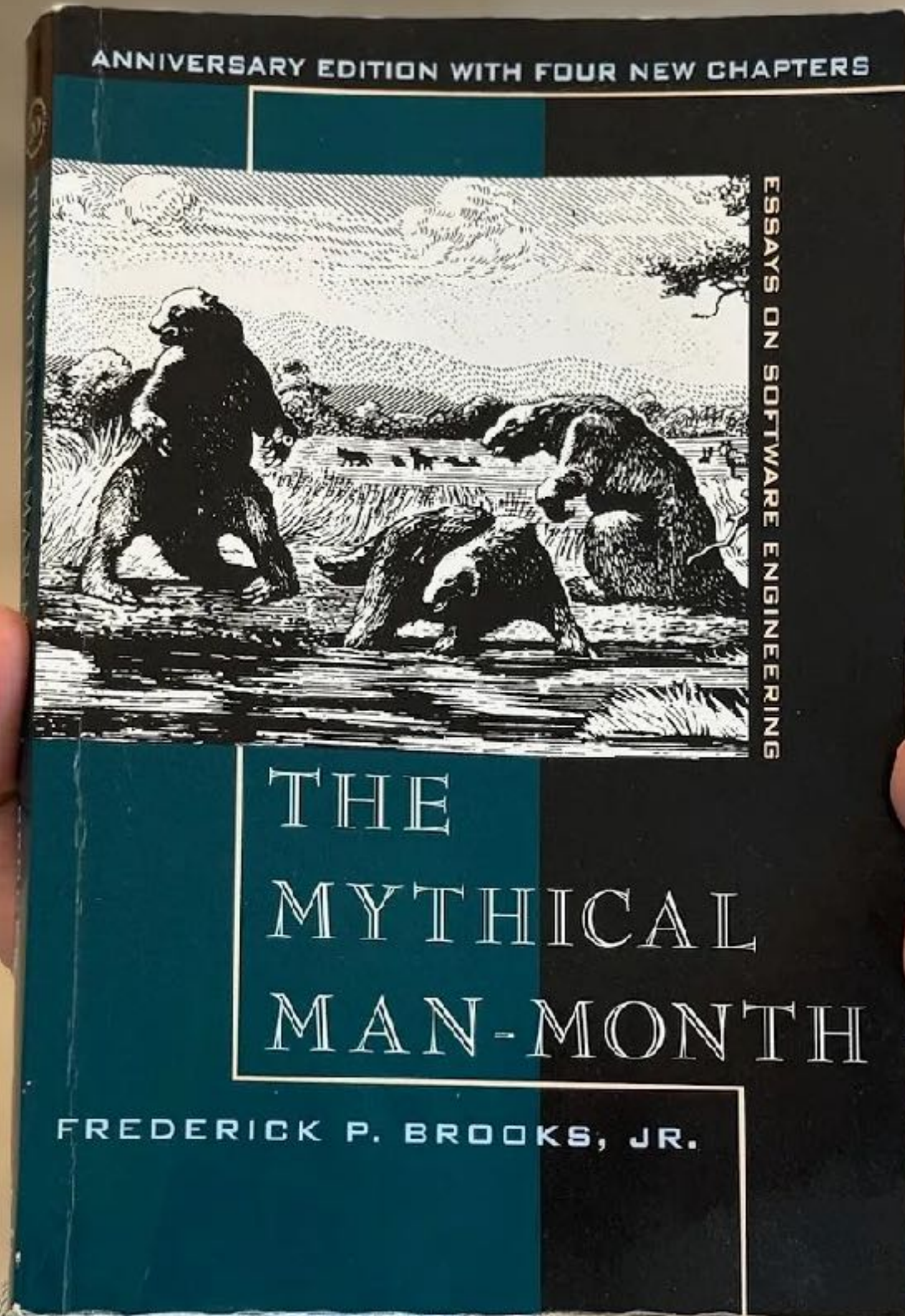


Programming
Languages



AI

**We were promised
Jetpacks**



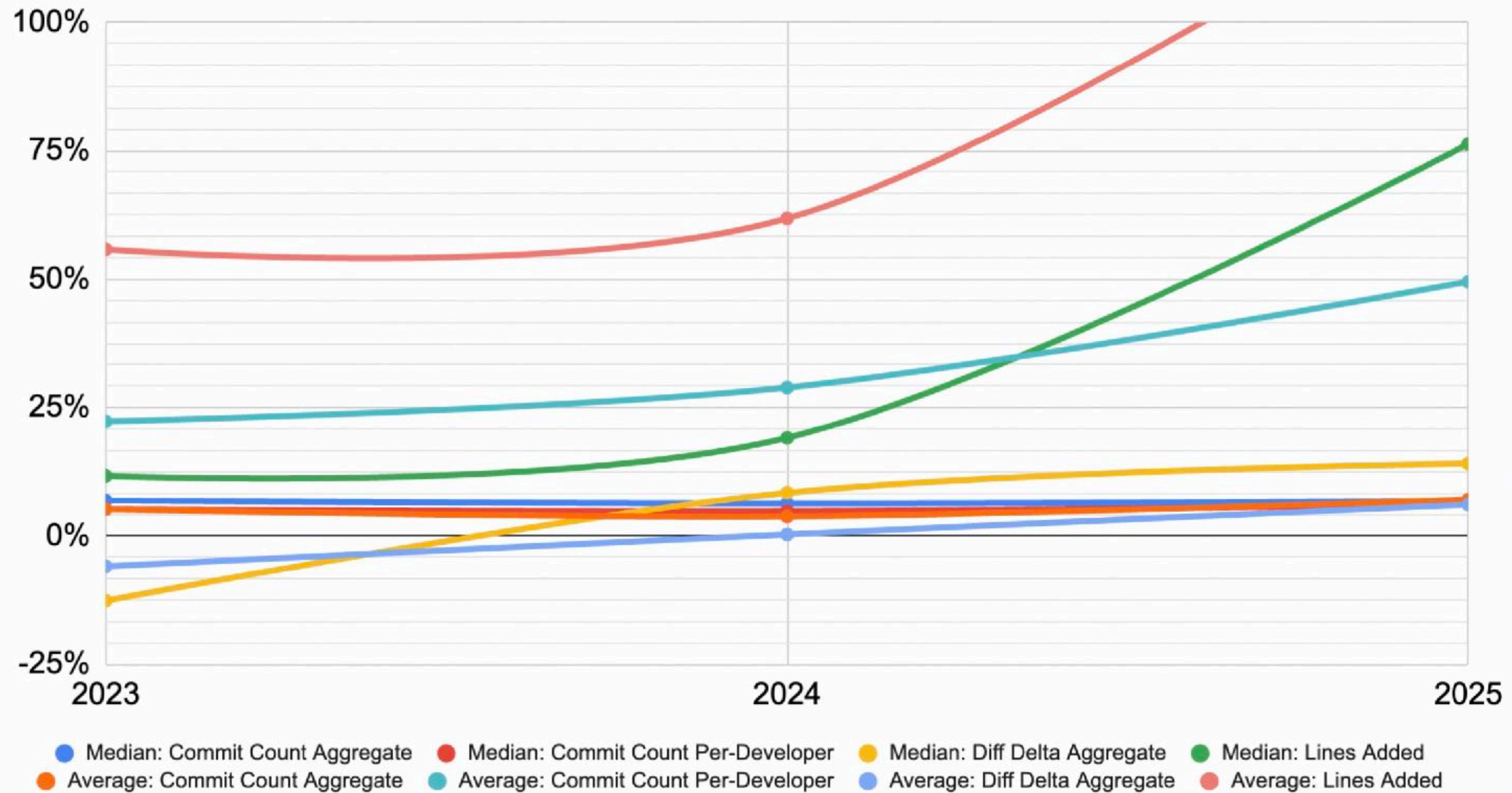
<https://newsletter.pragmaticengineer.com/p/what-changed-in-50-years-of-computing>

Not 10x,

~10%

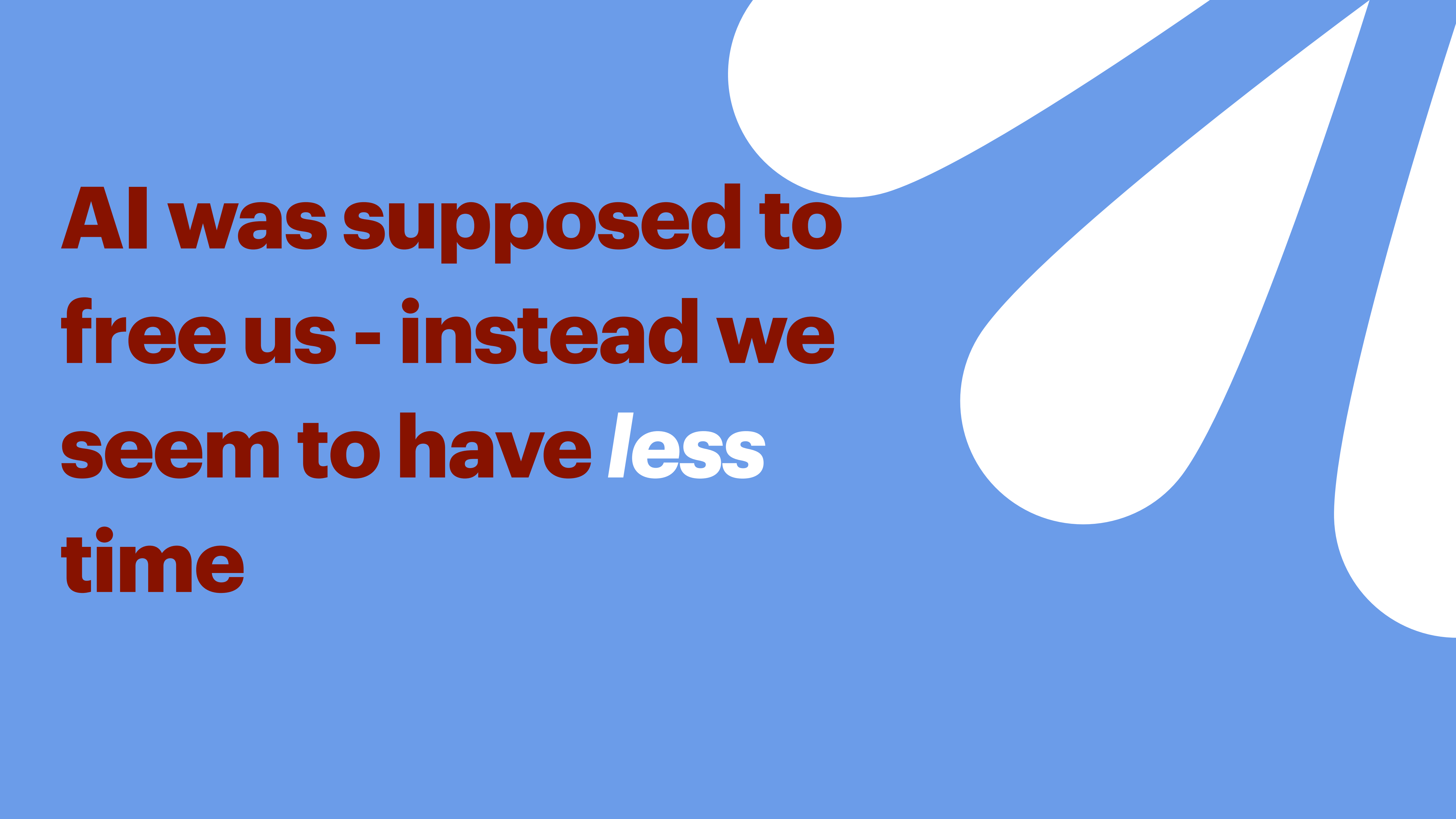
Various Sources:
DORA state of AI-
Assisted Software
Development 2026,
DX ([https://
getdx.com/blog/ai-
productivity-gains-
are-10-percent-
not-10x/](https://getdx.com/blog/ai-productivity-gains-are-10-percent-not-10x/))

Change in Developer Output vs 2022



Source: https://www.gitclear.com/research/ai_tool_impact_on_developer_productive_output_from_2022_to_2025

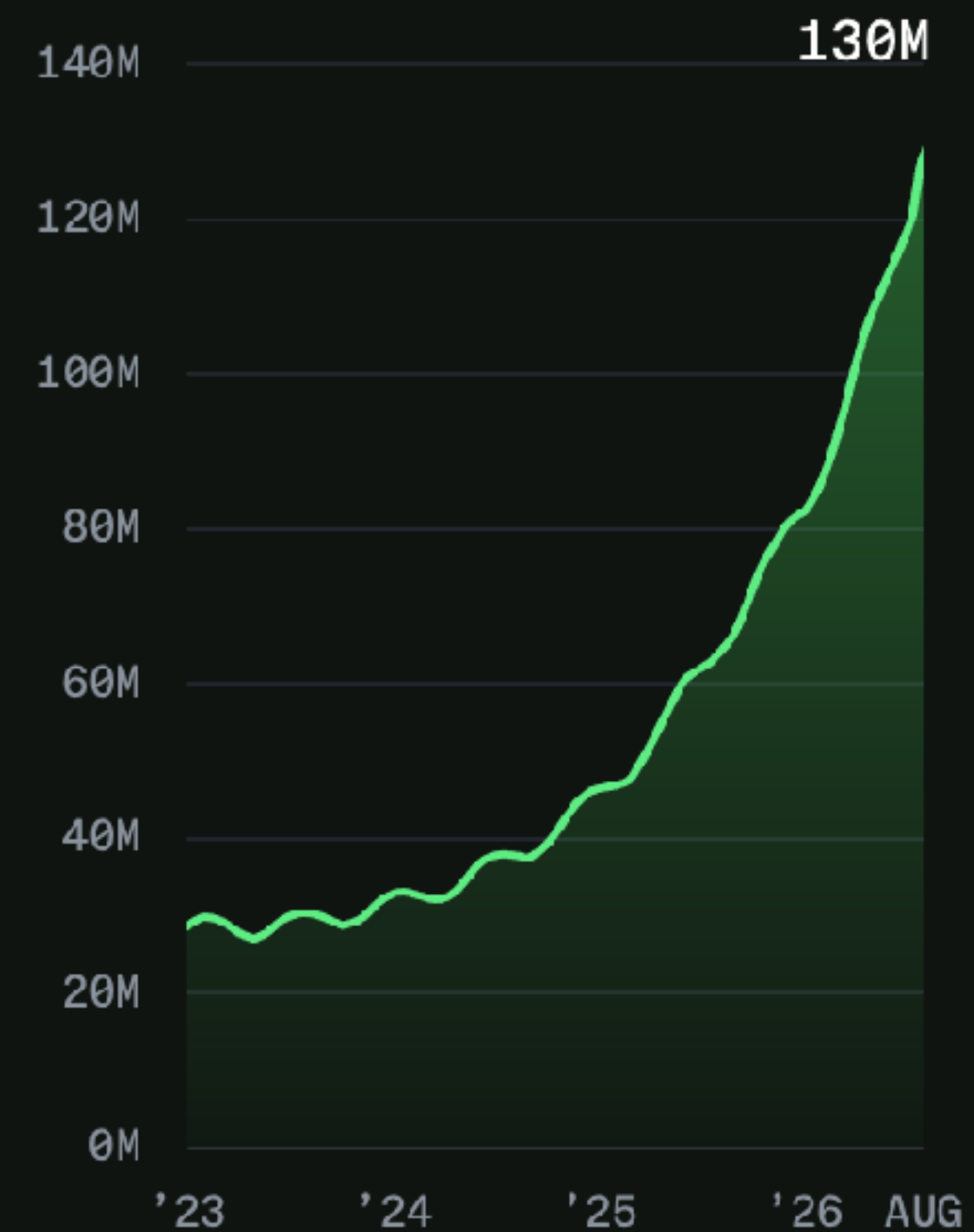
**So what is the
issue?**



**AI was supposed to
free us - instead we
seem to have *less*
time**

**PRs are getting
bigger, and more
frequent**

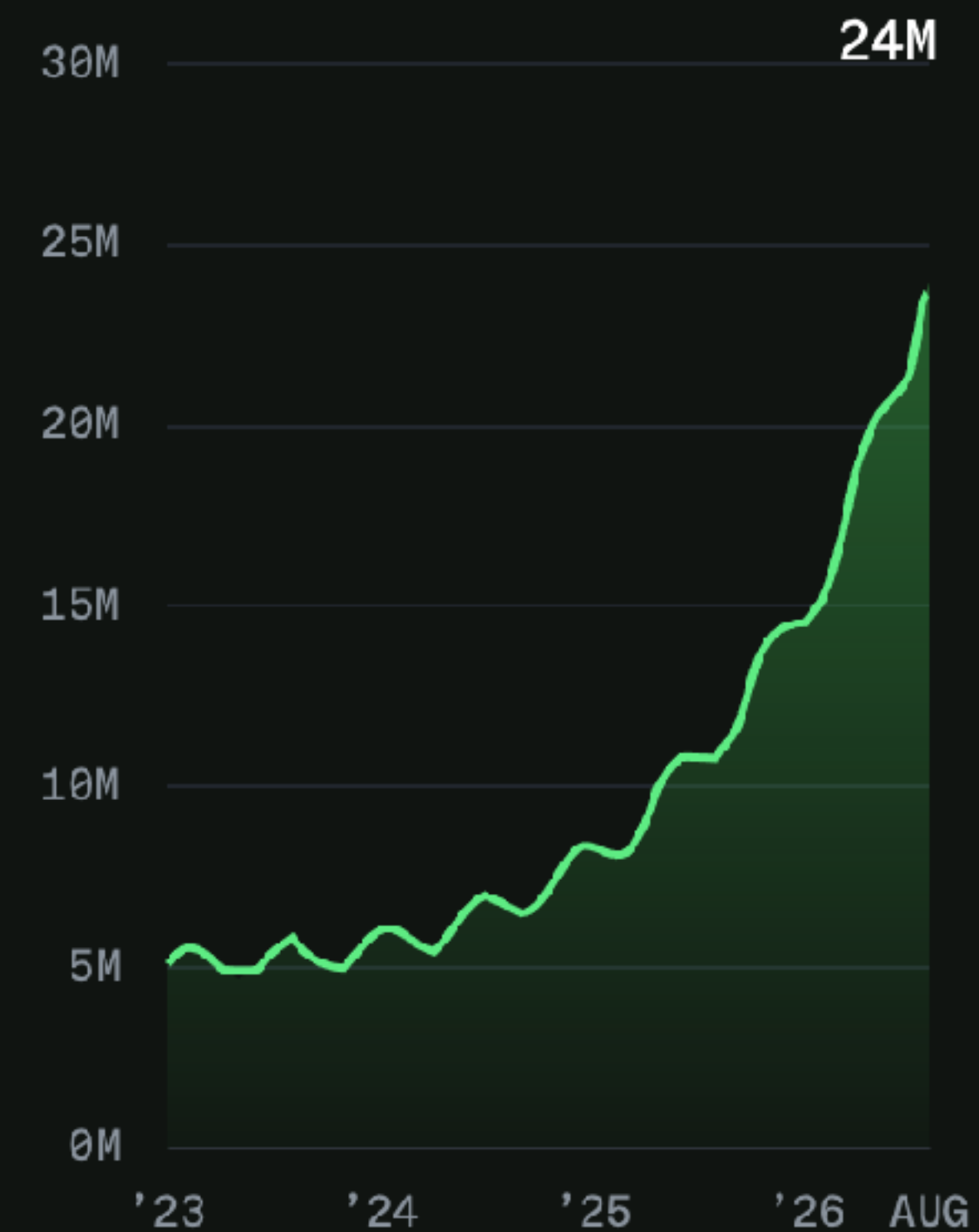
Merged pull requests per month



Commits per month



New repos per month



Classified as Microsoft Confidential



<https://github.blog/news-insights/company-news/the-august-17-outage-and-the-work-ahead/>

1.4 -> 2.9 Billion

PR Growth In 4

Months

The August 17 outage, and the work ahead <https://github.blog/news-insights/company-news/the-august-17-outage-and-the-work-ahead/>

**Is human review a
bottleneck?**



Active poll

Which of these is the biggest friction point in your SDLC today?

412

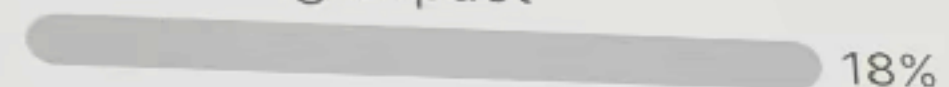
Join at
slido.com
#9375 752

Reviewing changes



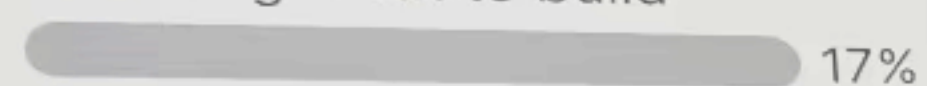
51%

Measuring impact



18%

Deciding what to build



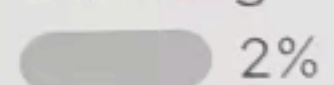
17%

Delivering to production



11%

Building



2%

LGT M

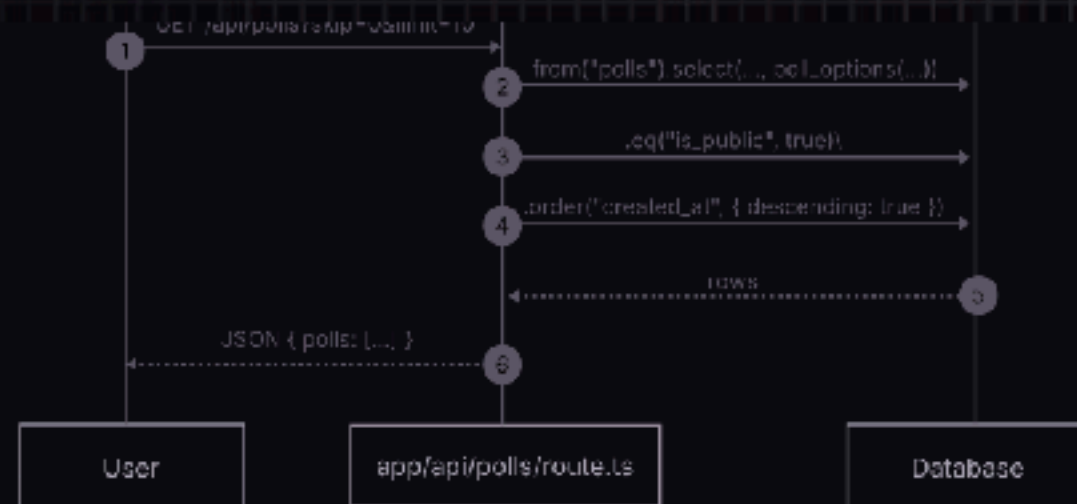
**Let's use AI for
code review!**

Cut code review time & bugs in half, instantly.

Reviews for AI-powered teams who move
fast (but don't break things)

Try it for free ➤

2-click install   



Estimated code review effort

🔥 3 (Moderate) | ⌚ ~20 minutes

▶ 🛠 Nitpick comments (3)

▶ 📁 Review details

▶ 📁 Files selected for processing (11)

▶ 📁 Files with no reviewable changes (2)



coderrabbitai bot 1 min ago

⚠️ **Potential issue** | 🟡 **Minor**

... A 404 might be more suitable for
not found errors.

```
- status_code=400,  
+ status_code=404,
```

▶ Committable suggestion



jbrooks215 author Now

Great catch! Just Fixed it.

Recommended to use a wildcard imports

▶ -7 +1

▶ Committable suggestions



jbrooks215 author 2 minute ago

@coderrabbitai No, we want to get rid of
star imports.

<https://www.coderabbit.ai/>



**So now we have AI
write code, review
code, and change
code**

**But if AI is writing
code for AI...**

**...why are we
looking at it?**



**What is a code
review for?**

1. Correctness

2. Shared Learning

**3. Alignment To Strategy
And Practice**

4. An auditable Unit Of Work

~~1. Correctness~~

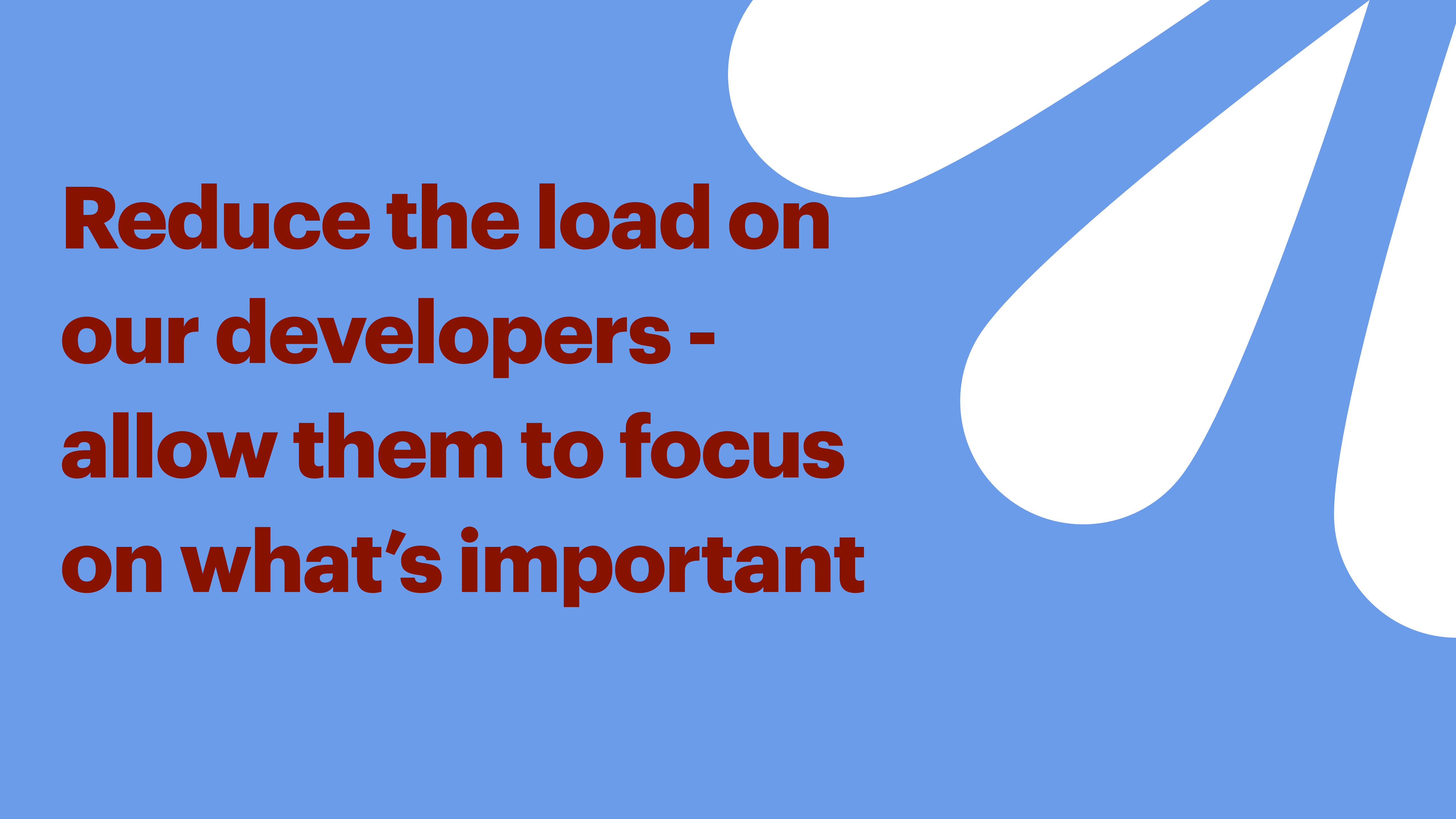
~~2. Shared Learning~~

~~3. Alignment To Strategy~~

~~And Practice~~

~~4. An auditable Unit Of Work~~

**So why can't we
just give our code
to AI, wholesale?**



**Reduce the load on
our developers -
allow them to focus
on what's important**



Industrial Robots



<https://www.aboutamazon.com/news/operations/amazon-hercules-robot>



<https://www.satech.it/en/machine-guards-for-industrial-robots/>

Dark Factories



<https://theprint.in/ground-reports/indias-only-dark-factory-polymatech-kancheepuram-tamil-nadu-automation/2850562/>

Loop Engineering?



**Have AI create
code in dark
factories**

**It's too
risky!**

**Sounds
crazy?**

**Who here has
outsourced
code?**

**Or used a 3rd
party library?**

**Is all code
equal?**



<https://unsplash.com/photos/a-very-tall-building-with-lots-of-windows-NVXq-uuN9Xk>



Photo by [JACQUELINE BRANDWAYN](#) on [Unsplash](#)

**So why treat it
the same?**

Cobots vs Industrial Robots



<https://digitalhealth.tu-dresden.de/projects/innovation-projects/cobot/>



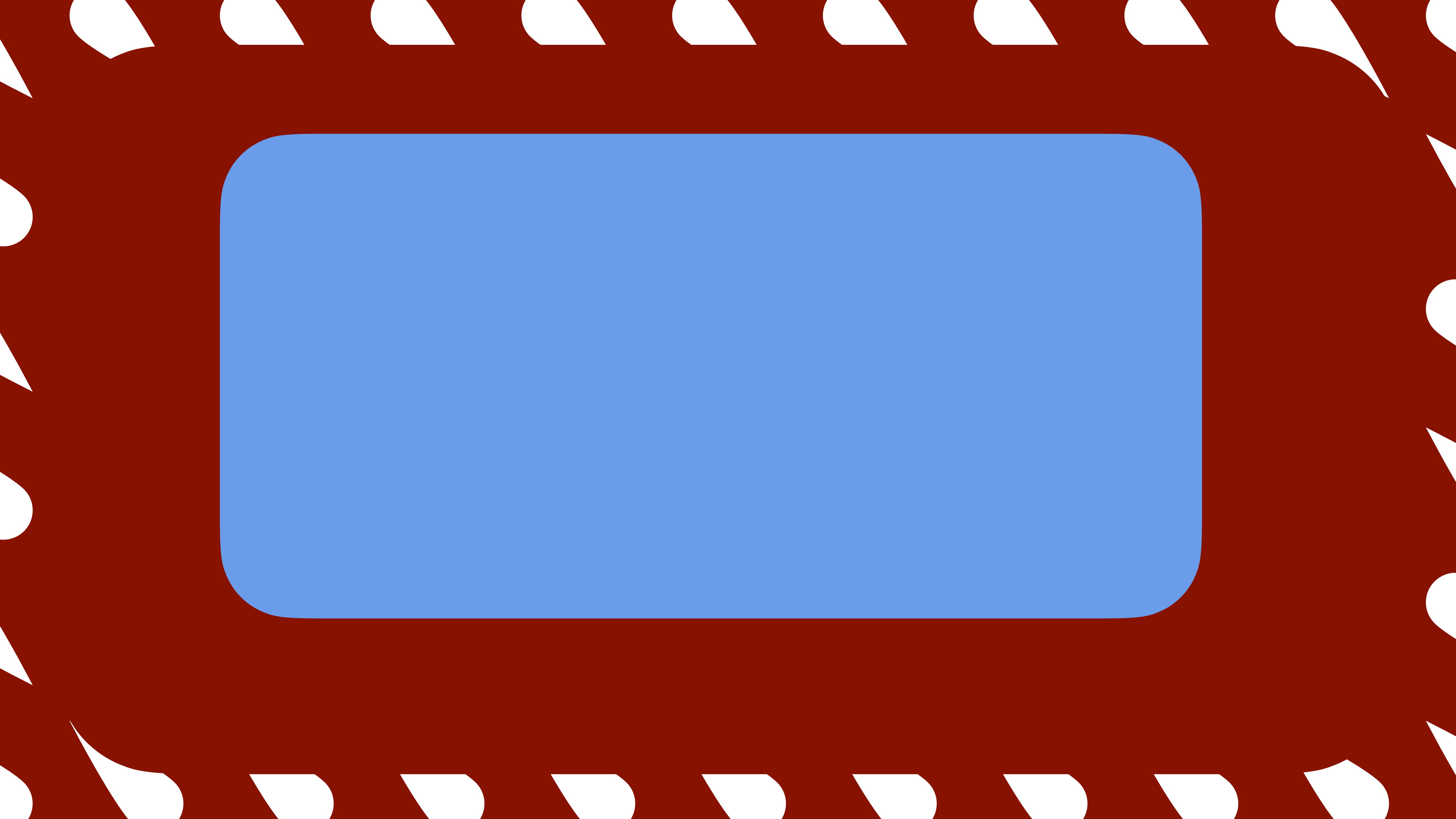
<https://www.satech.it/en/machine-guards-for-industrial-robots/>

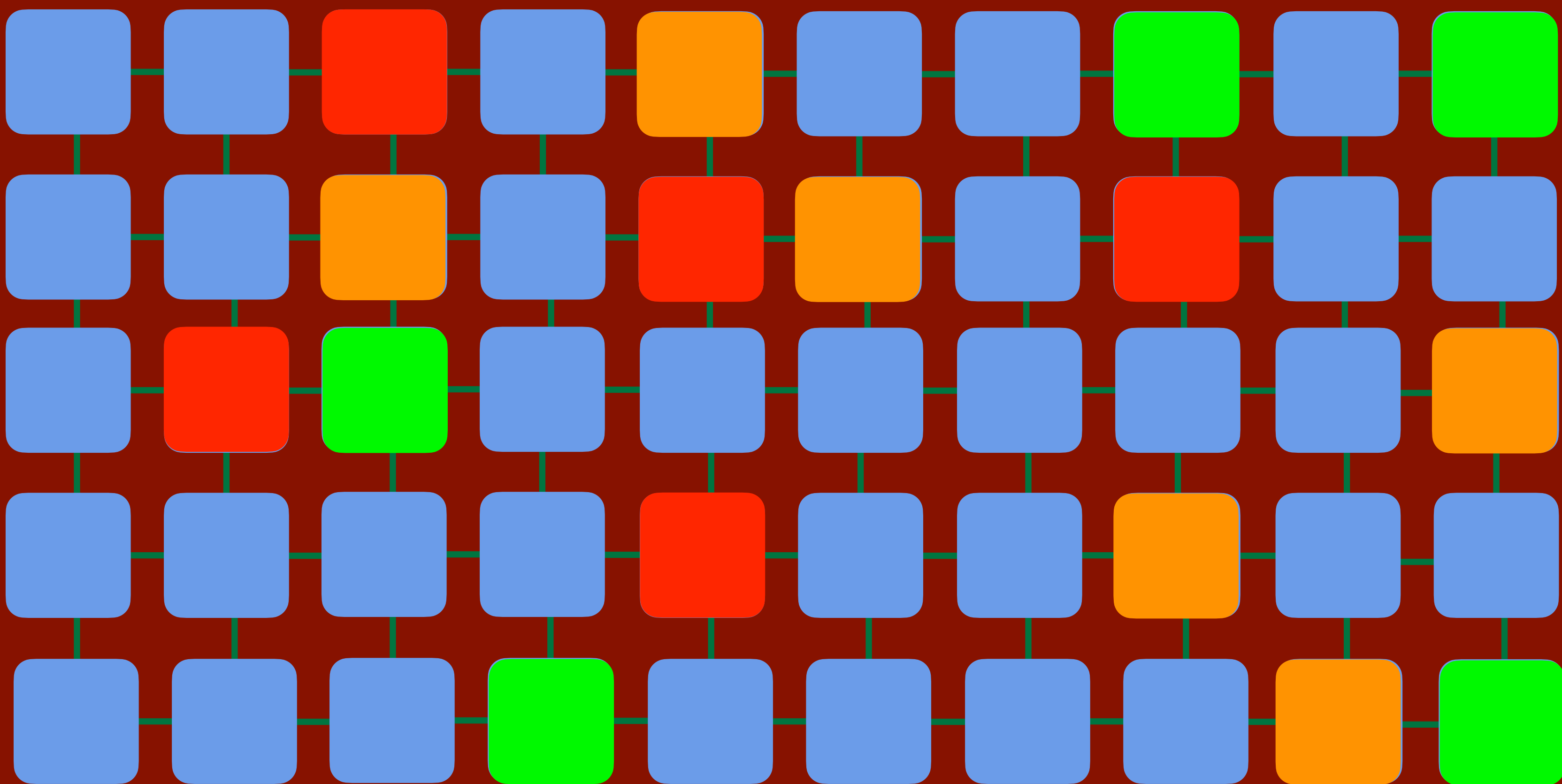


**For important code -
AI and developer
work hand in hand**



**For less critical
code, just give it
to the AI**







**Outsource
modules to
the AI**

**What makes it ok
to use 3rd party
code?**

**Or to outsource
code?**

Trust



Issues

98



Pull requests

52

New issues and PRs from new contributors are auto-closed by default after 30 days. See [CONTRIBUTING.md](#).

Pi Agent Harness

This is the home of the Pi agent harness project including our self

- [@earendil-works/pi-coding-agent](#): Interactive coding agent CLI
- [@earendil-works/pi-agent-core](#): Agent runtime with tool calling and state management
- [@earendil-works/pi-ai](#): Unified multi-provider LLM API (OpenAI, Anthropic, Google, ...)

To learn more about Pi:

- [Visit pi.dev](#), the project website with demos
- [Read the documentation](#), but you can also ask the agent to explain itself



Fork

12.6k



Star

102k

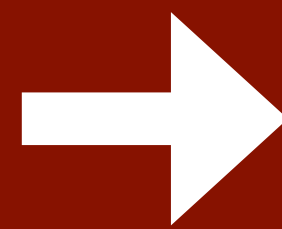


<https://unsplash.com/photos/four-people-all-on-laptops-two-men-and-two-women-listen-to-person-talking-in-a-board-meeting-ZT5v0puBjZI>

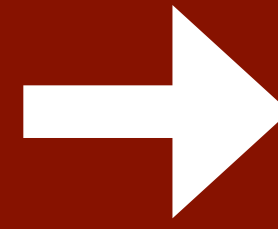
**How much do you
trust your *AI*
Agent?**

**How much do you
trust your *AI*
*vendors?***

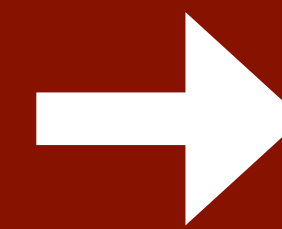
Machine
Code



Assembly



Programming
Languages



AI

Trust



Human involvement





<https://digitalhealth.tu-dresden.de/projects/innovation-projects/cobot/>



<https://robotsguide.com/robots/roomba>



<https://theprint.in/ground-reports/indias-only-dark-factory-polymatech-kancheepuram-tamil-nadu-automation/2850562/>

**So where is the
human still vital?**

**“...essential part of any program,
the theory of it, is something that
could not be conceivably be
expressed, but is inextricably
bound to human beings.”**

-Peter Naur

Programming As
Theory Building,
Peter Naur, 1985



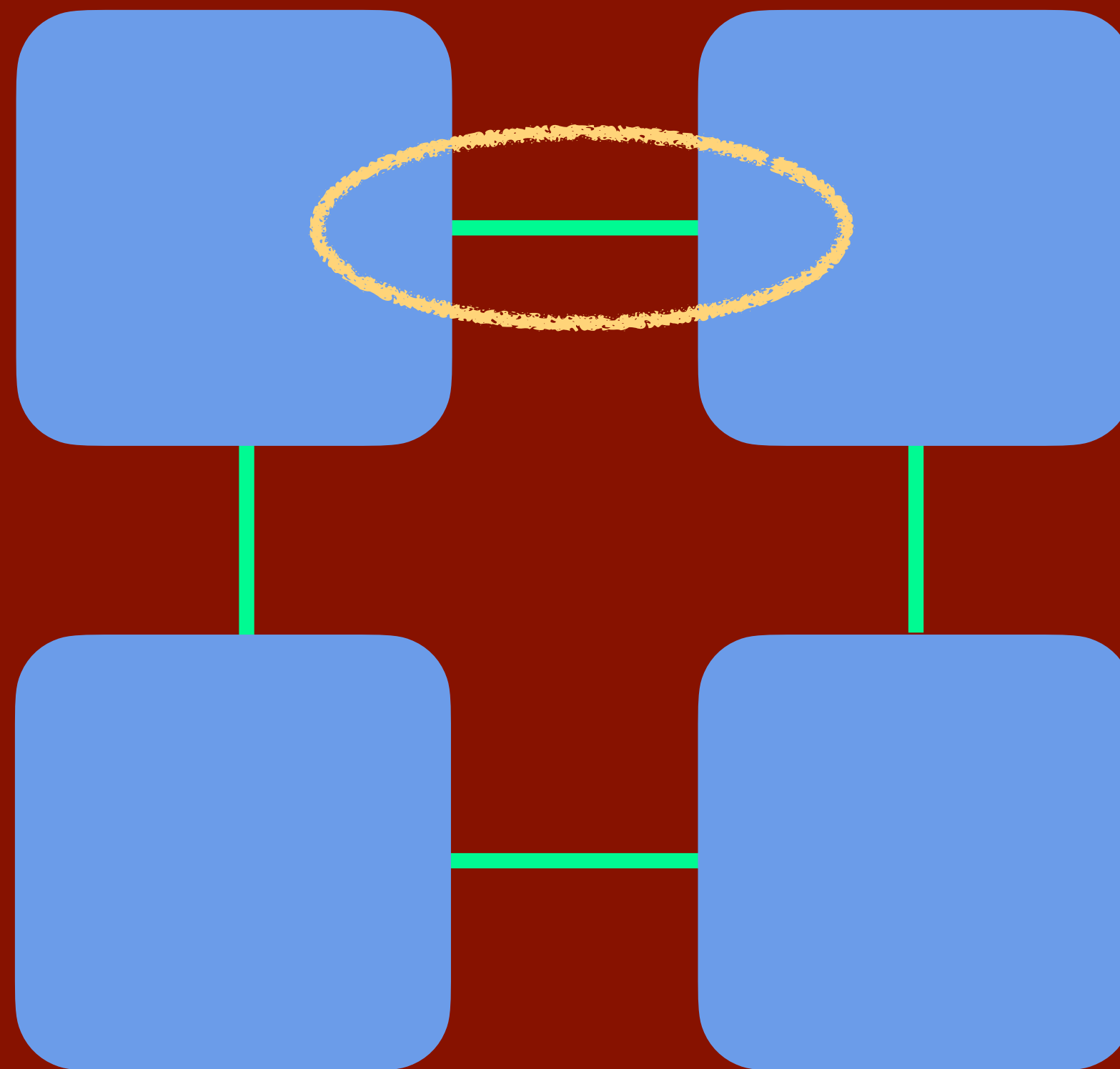
Photo by [Redd Francisco](#) on [Unsplash](#)



**Use AI to spend
more time being
human**

Hard to change

A user interface



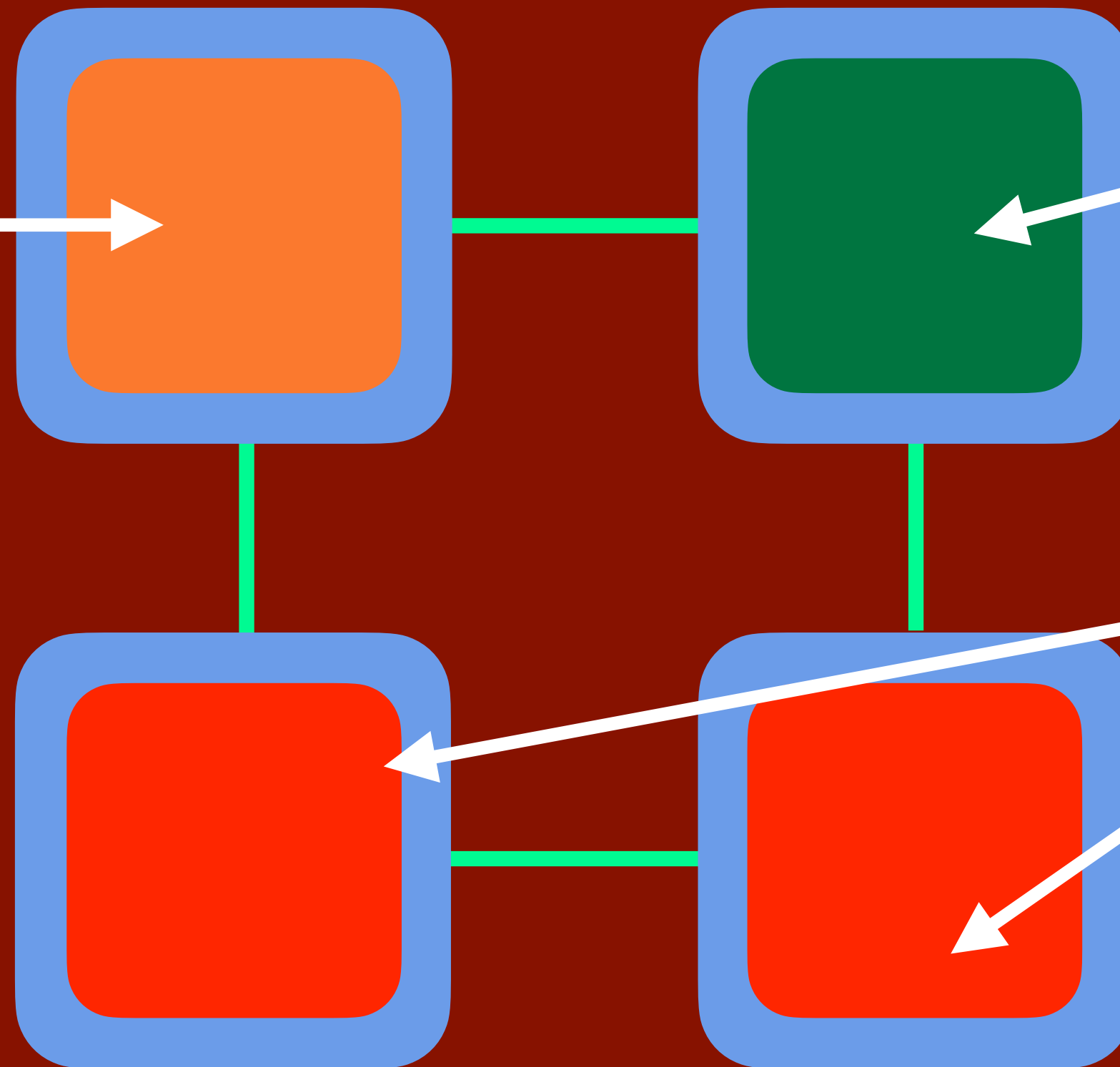
**Inputs and
outputs**

**Verification
points**

Sequential

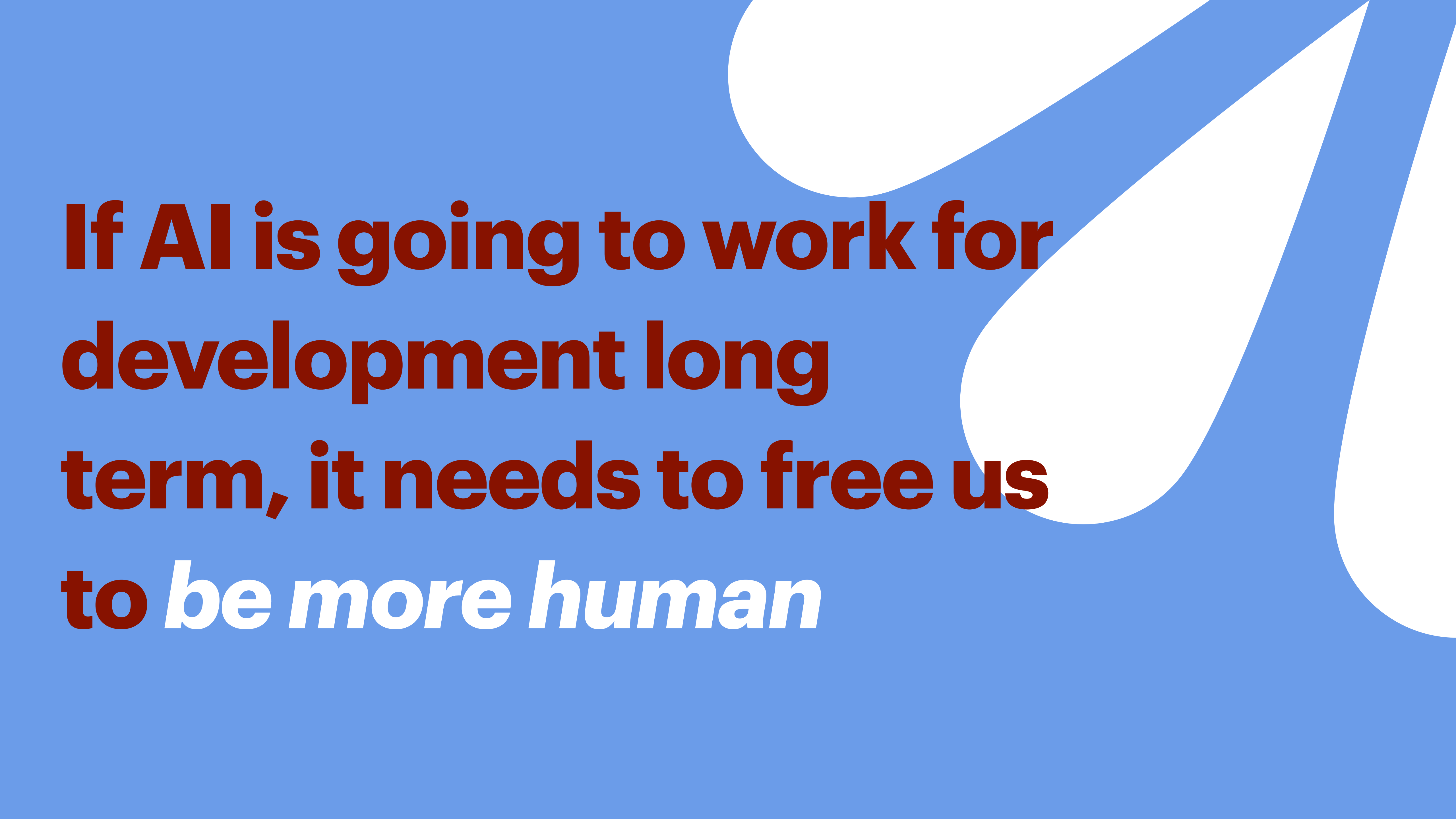
Highly
collaborative

Hands-off





**A modular architecture
is the perfect hedge
against an uncertain
future**



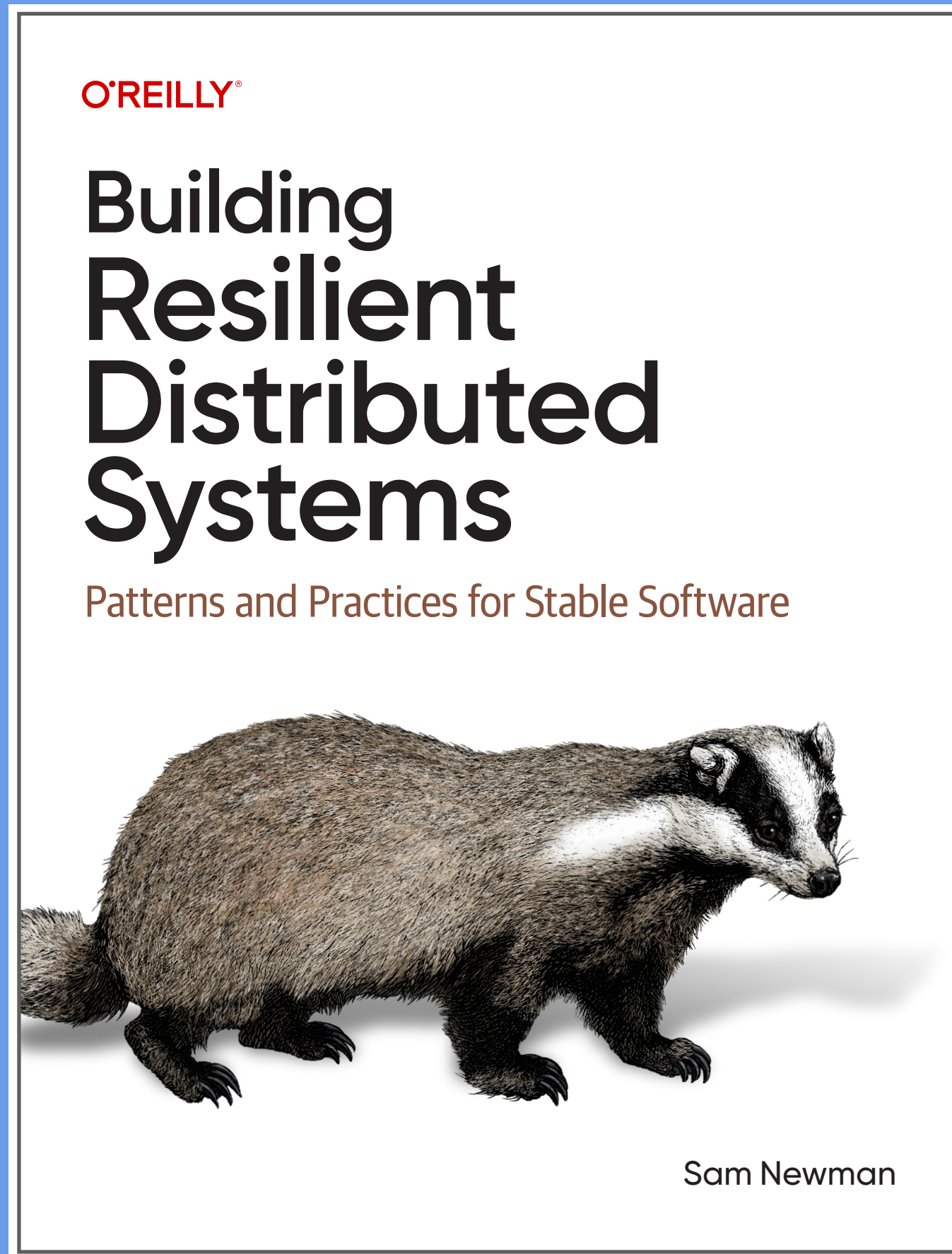
**If AI is going to work for
development long
term, it needs to free us
to *be more human***

**“Ship fast enough to
care”**

- Jennifer Cox

Shipping Fast,
Burning Out Faster,
ShiptCon 2026

- 1. Re-examine why you have humans review code**
- 2. Identify boundaries (modules) in your system to vary working approaches**
- 3. Be intentional in how you use AI**
- 4. Free up time to *be more human***



Slides