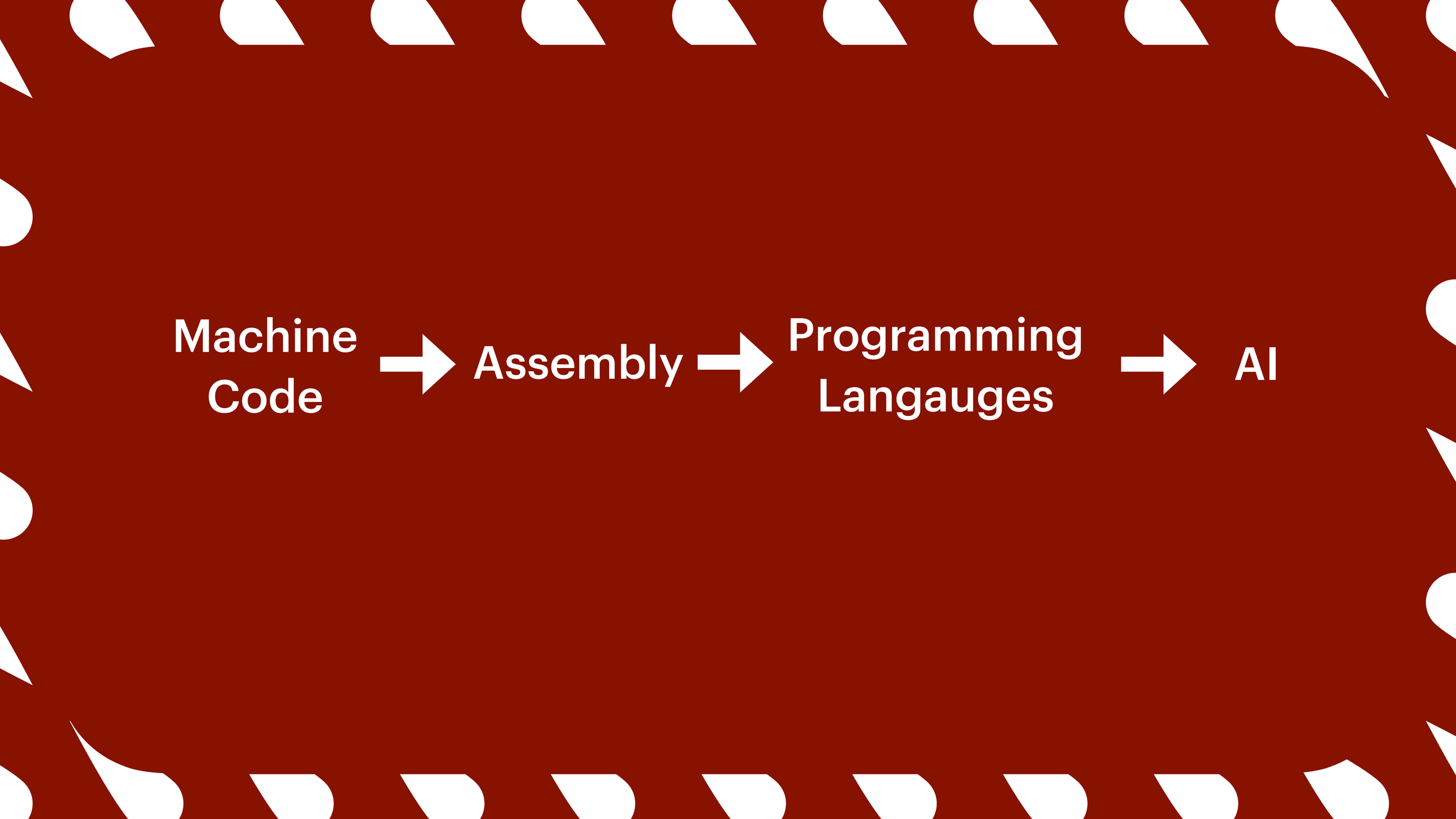
Cobots, dark factories and PRs

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

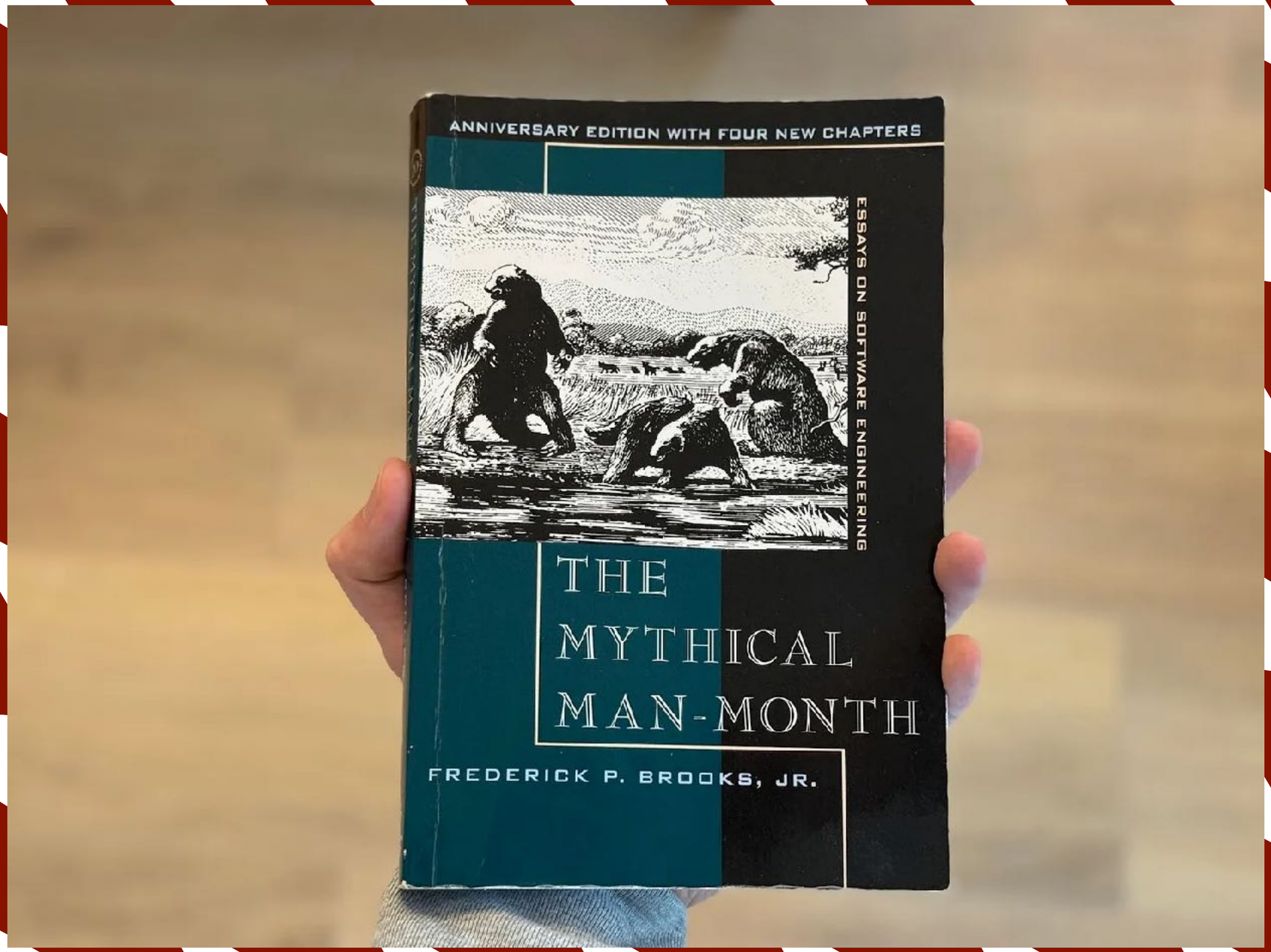
Uncertainty

Robots

Modules


Machine Code
Assembly
Programming Langauges
AI

We were promised Jetpacks

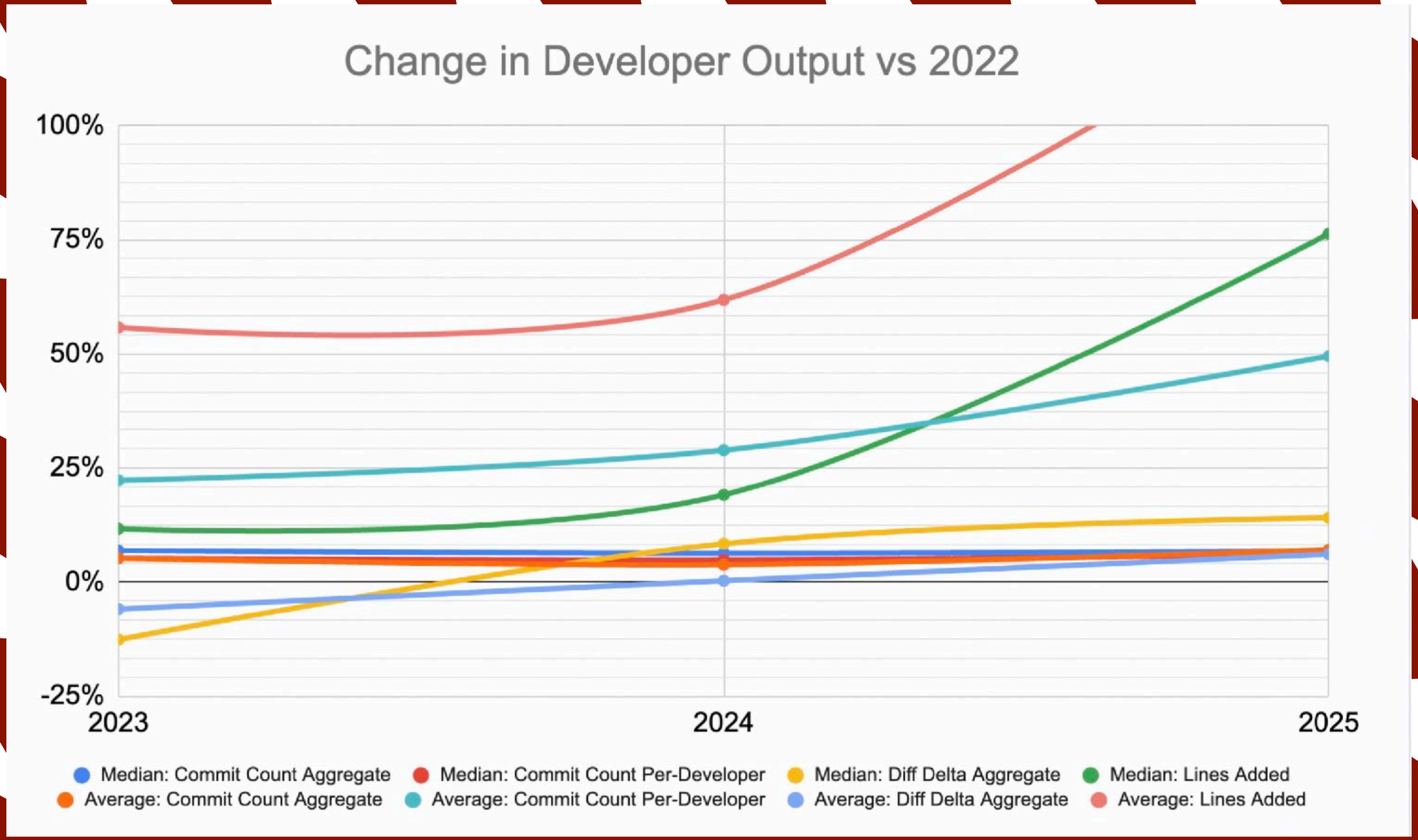


https://newsletter.pragmaticengineer.com/p/what-changed-in-50-years-of-computing

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/)



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

So what is the issue?

https://unsplash.com/photos/huge-wave-at-daytime-KrQJzrZiCak

https://unsplash.com/photos/a-person-sitting-on-a-couch-with-a-book-on-their-head-oOo1hf6-uhQ

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

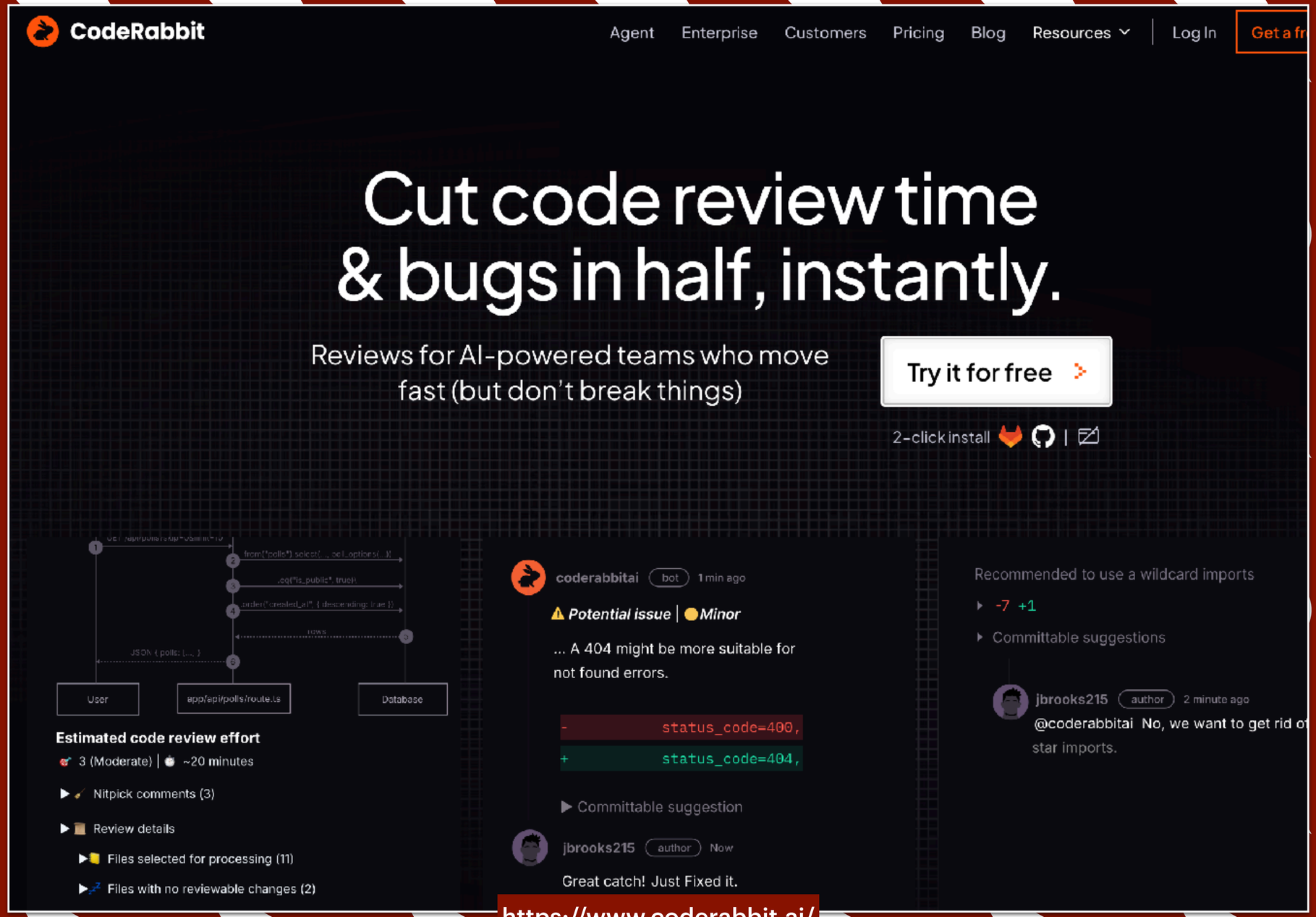
PRs are getting bigger, and more frequent

(I think PRs are dumb and stupid but I lost that argument)

Is human review a bottleneck?

LGTM

Let’s use AI for code review!



https://www.coderabbit.ai/

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

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~~

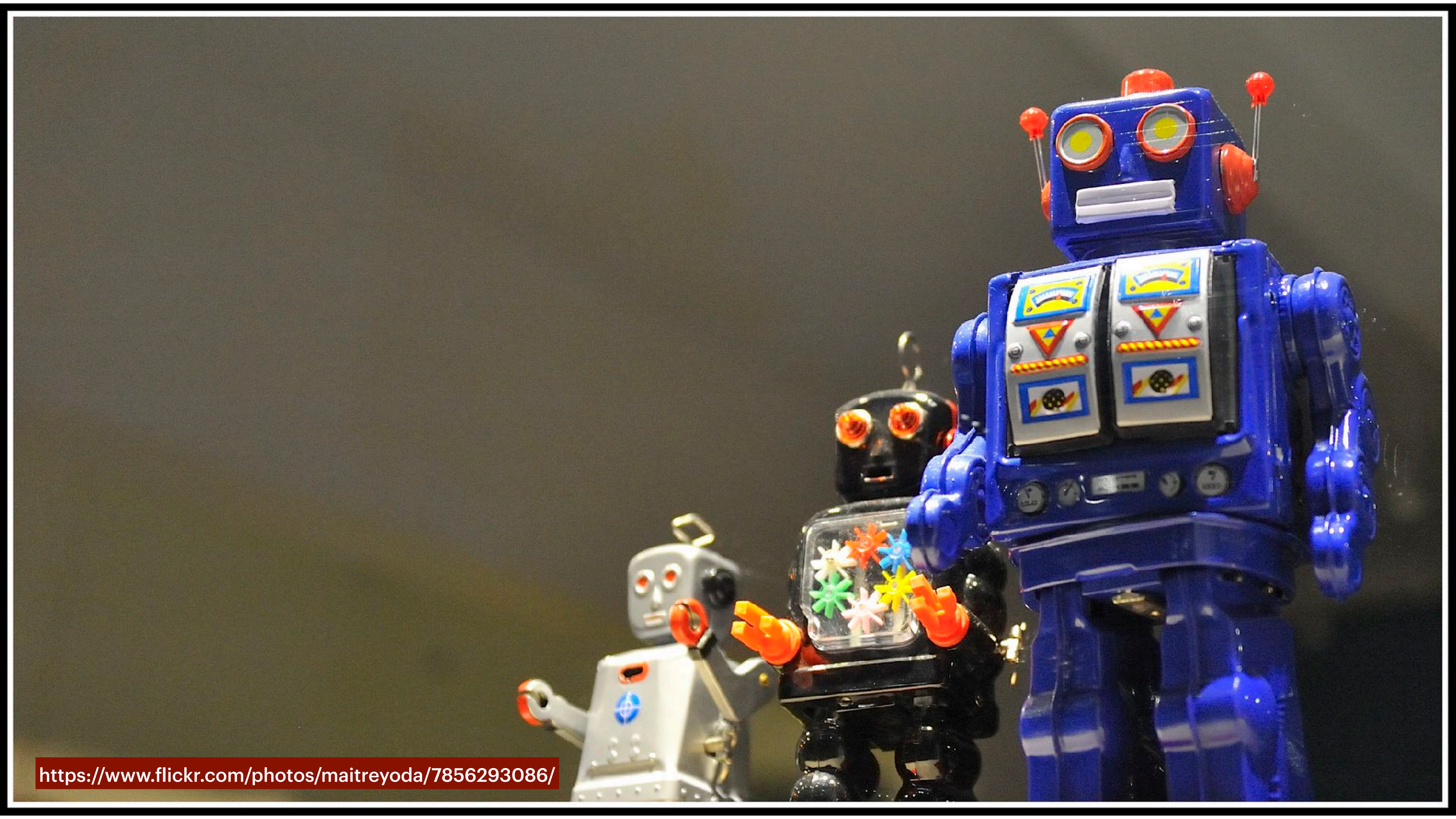
~~2. Shared Learning~~

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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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?

Loop Engineering

JUNE 7, 2026

Loop engineering is replacing yourself as the person who prompts the agent. You design the system that does it instead. A loop here can be thought of a recursive goal where you define a purpose and the AI iterates until complete. I believe this may be the future of how we work with coding agents. However, its still early, I'm skeptical and you absolutely *have* to be careful about token costs (usage patterns can vary wildly if you are token rich or poor), so I want to unpack what it is and what it means.

Peter Steinberger recently said: "You shouldn't be prompting coding agents anymore. You should be designing loops that prompt your agents." Similarly, Boris Cherny, head of Claude Code at Anthropic, said "I don't prompt Claude anymore. I have loops running that prompt Claude and figuring out what to do. My job is to write loops".

https://addyosmani.com/blog/loop-engineering/

Have AI create code in dark factories

Sounds crazy?

Who here has outsourced code?

Or used a 3rd party library?

It’s too risky!

Is all code equal?

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

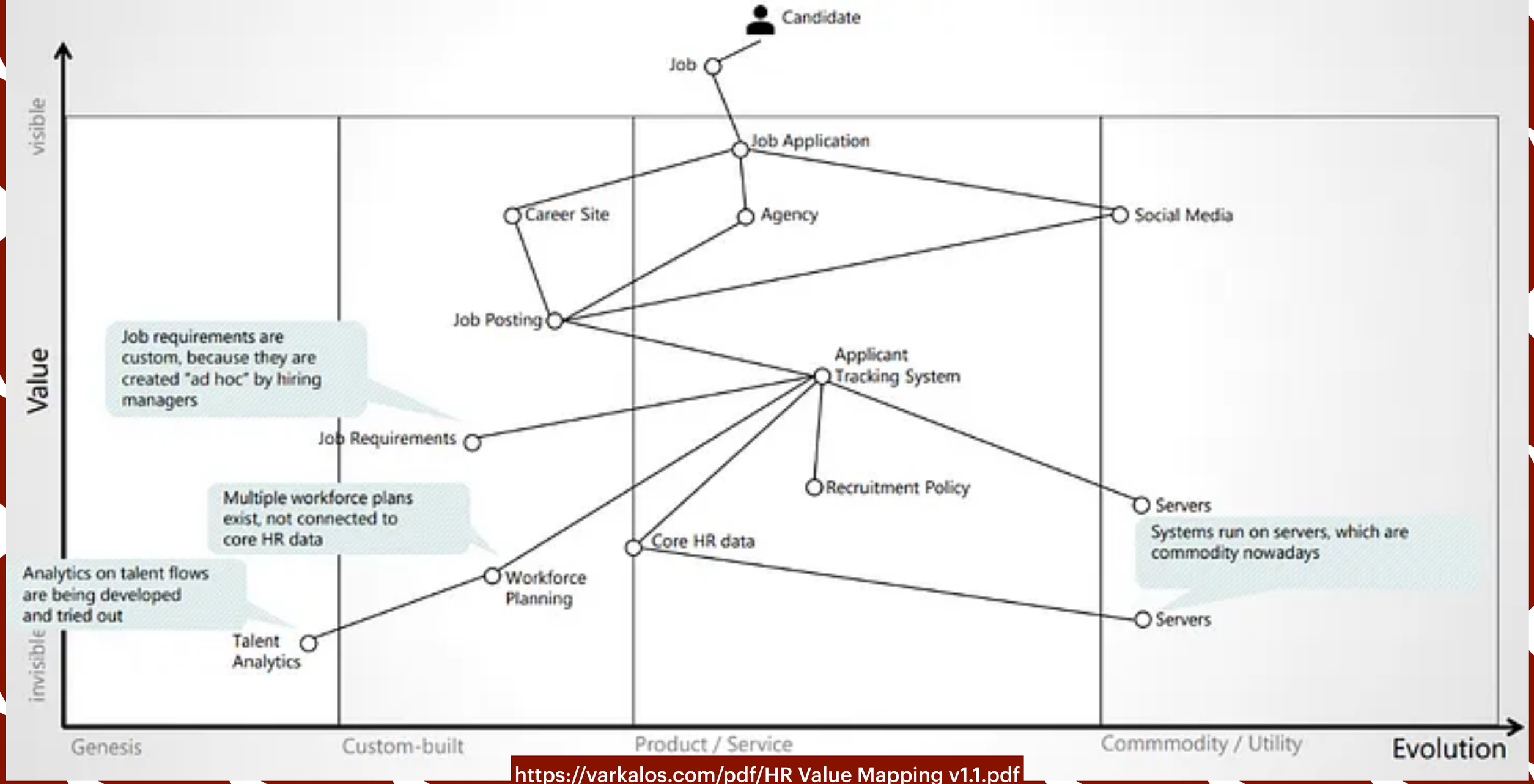
Photo by JACQUELINE BRANDWAYN on Unsplash

So why treat it the same?

Cobots
vs
Industrial Robots


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

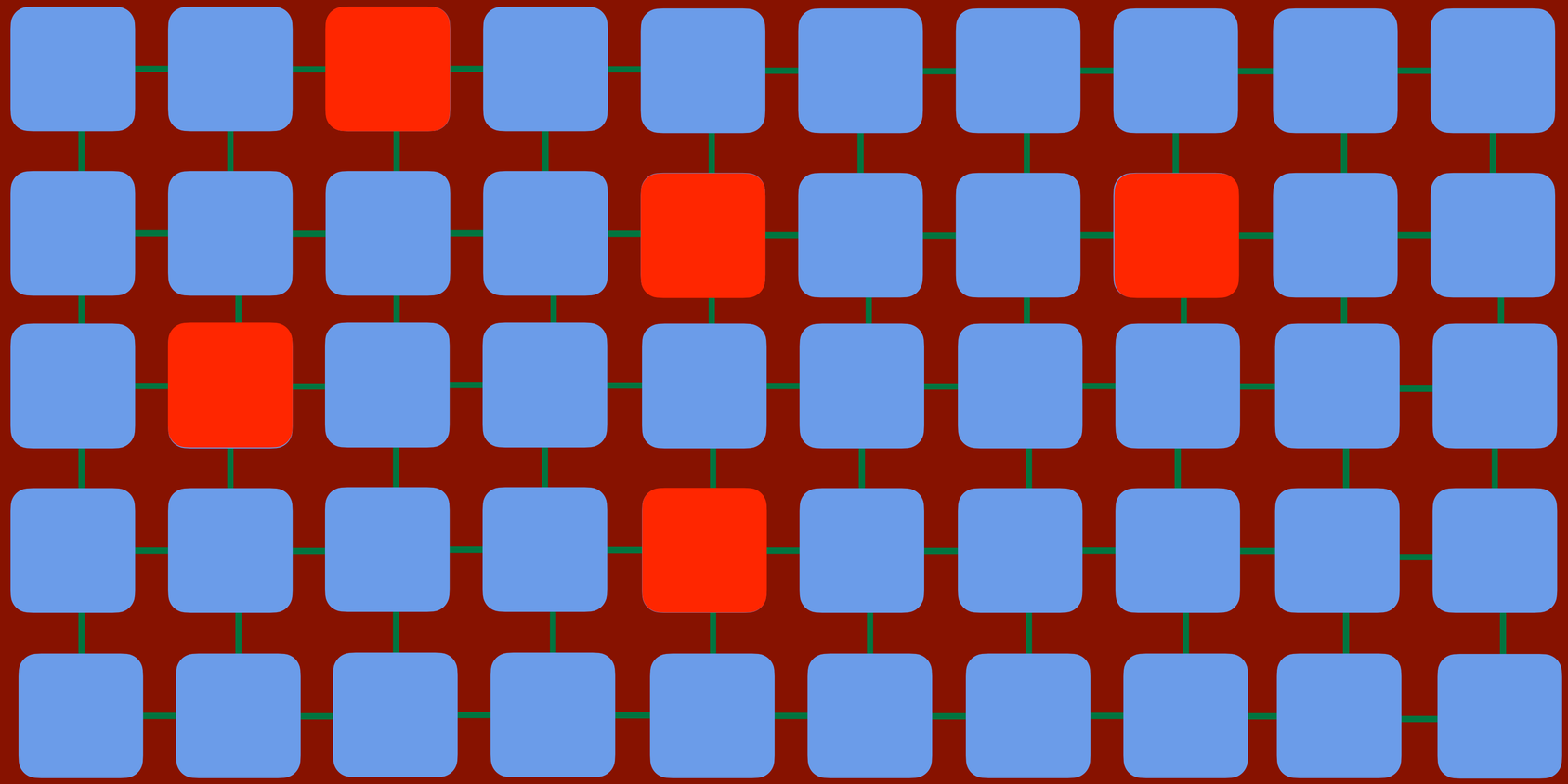
https://www.satech.it/en/machine-guards-for-industrial-robots/



https://varkalos.com/pdf/HR Value Mapping v1.1.pdf

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

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

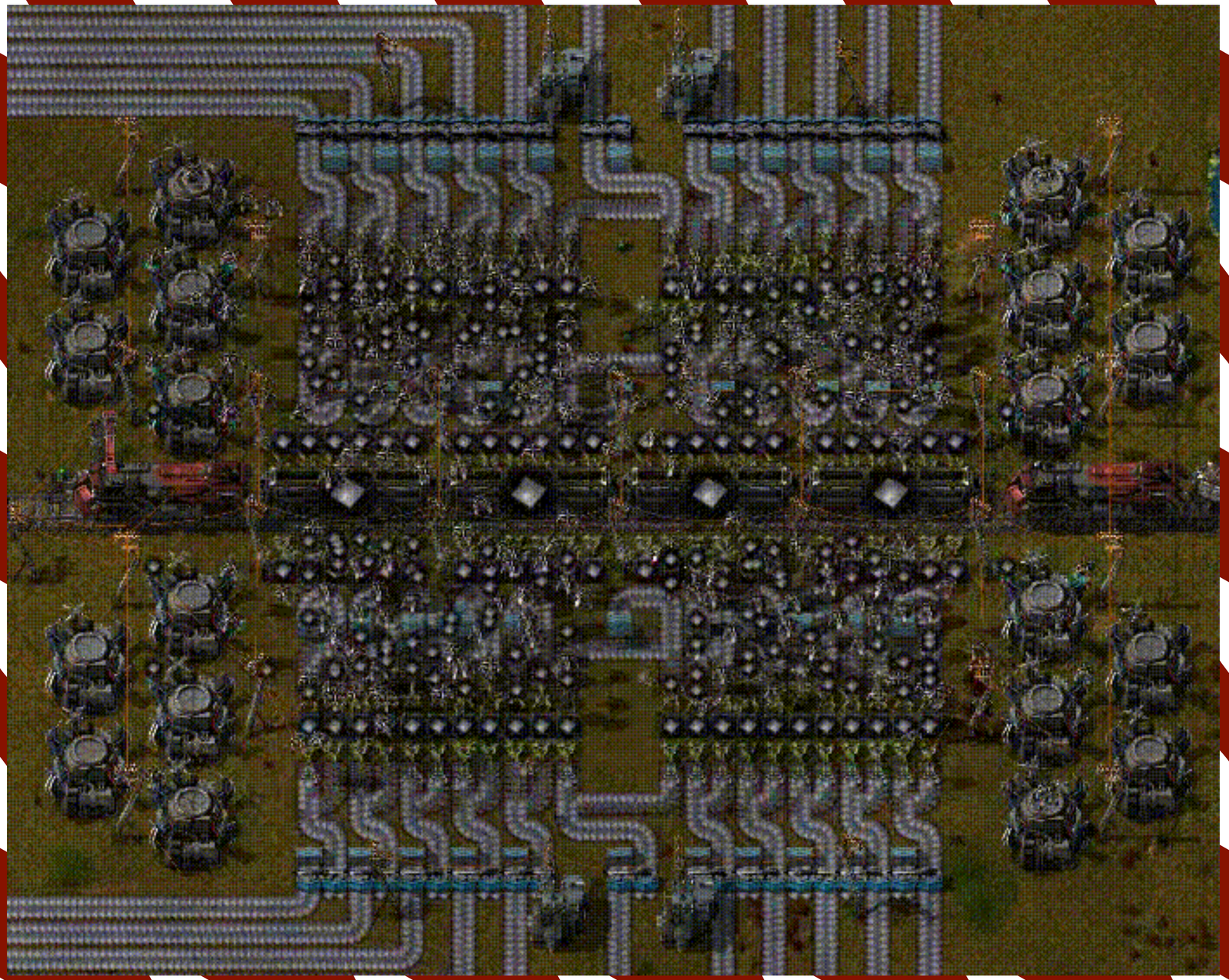
How much do you trust your *AI Agent?*

How much do you trust your *AI vendors?*

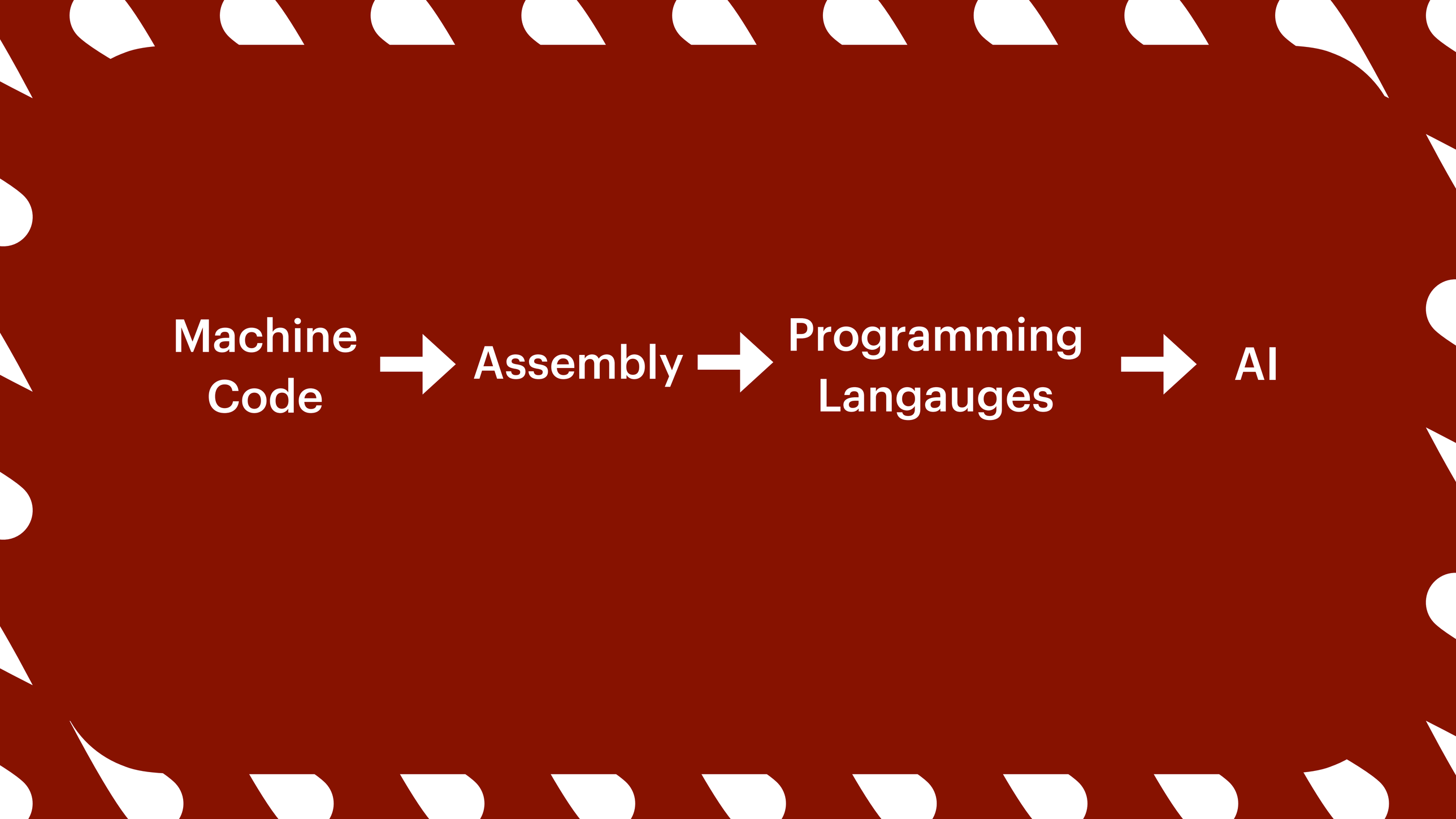
Testing becomes (more) vital

As does observability

https://unsplash.com/photos/black-flat-screen-tv-turned-on-near-black-and-gray-audio-component-iYkqHp5cGQ4



https://wiki.factorio.com/index.php?title=File%3ARoboTrainStation.gif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Human involvement


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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?

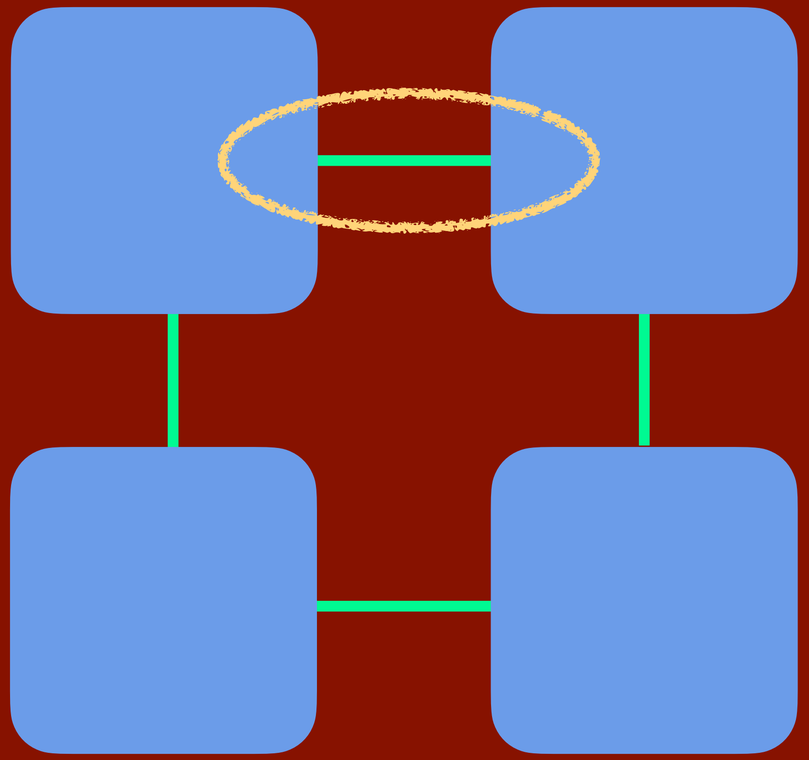
“...essential part of any program, the theory of it, is something that could not be conceivably be expressed, but is inextricably bound to human beings.”

-Peter Naur

Programming As Theory Building, Peter Naur, 1985

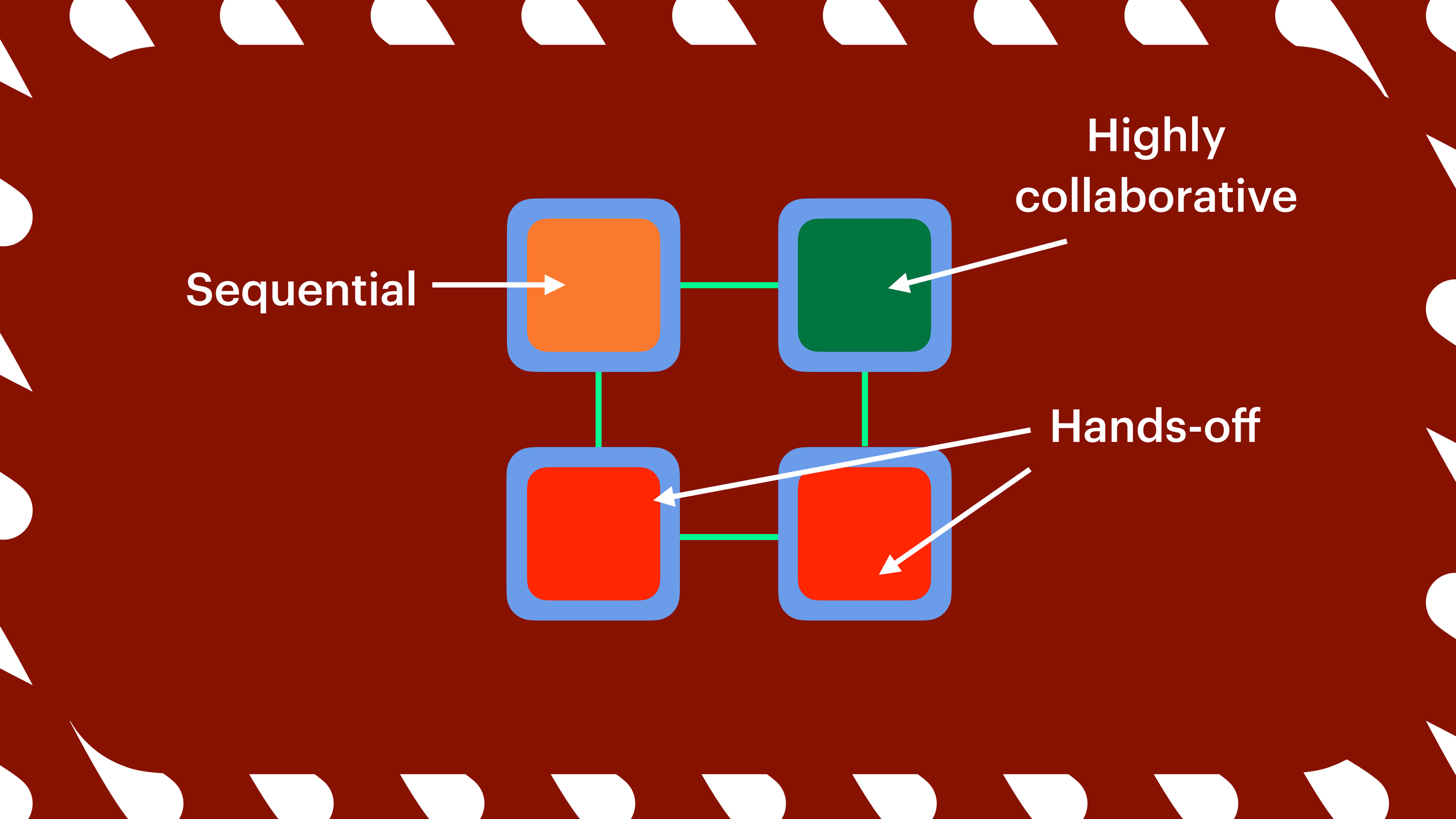
Hard to change

A user interface



Inputs and outputs

Verification points


Highly collaborative
Sequential
Hands-off

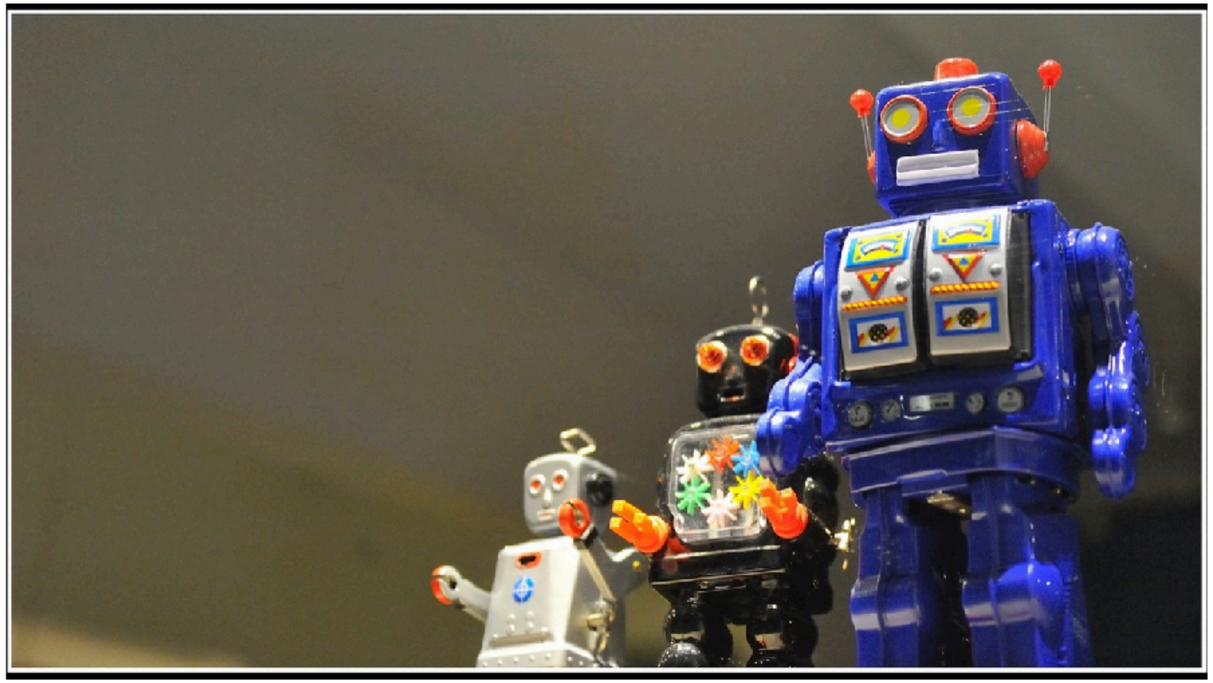
“There is no such uncertainty as a sure thing”

- Robert Burns

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*

1. Re-examine why you have humans review code
2. Identify boundaries (modules) in your system to vary working approaches
3. Take time to build trust in AI
4. Our near future will likely be a range of working models, not one-size fits all



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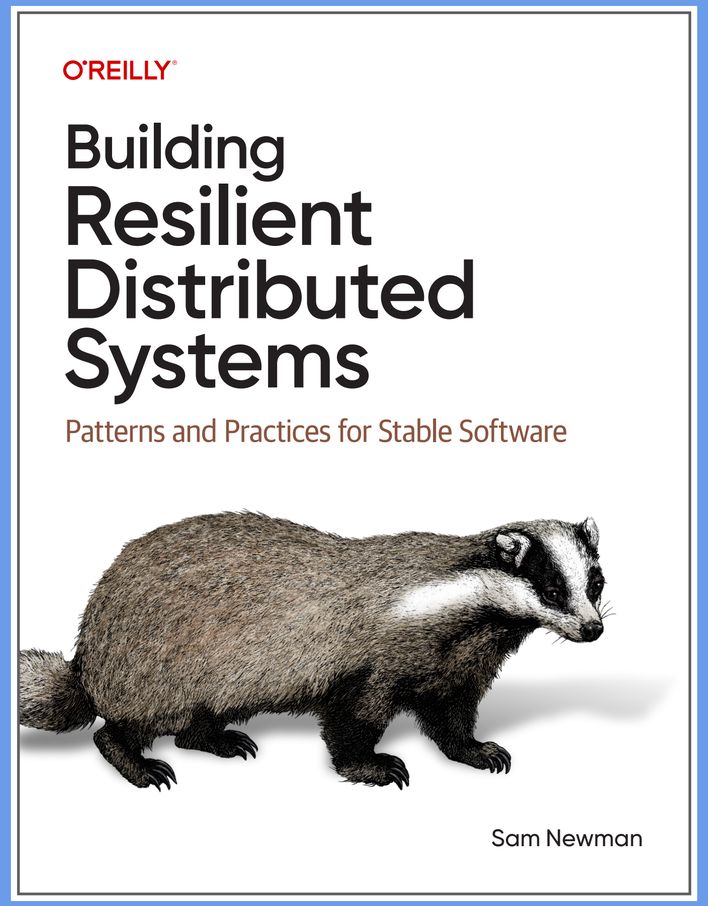
Dark Factories, Cobots, And The Potential Future Of The PR

Sam Newman
Independent technology consultant, author of Building Microservices and Building Resilient Distributed Systems. Availabl...

May 22, 2026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Distributed
Systems
Patterns and Practices for Stable Software
Sam Newman

Slides