ARMIN RONACHER

NO ASSUMPTIONS

The Role of the Modern CTO

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WHO AM I

- Armin *@mitsuhiko* Ronacher
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- VP of Platform at Sentry
- Creator of Flask, Jinja and many other Open Source libraries
- Building Open Source Projects for 20 Years

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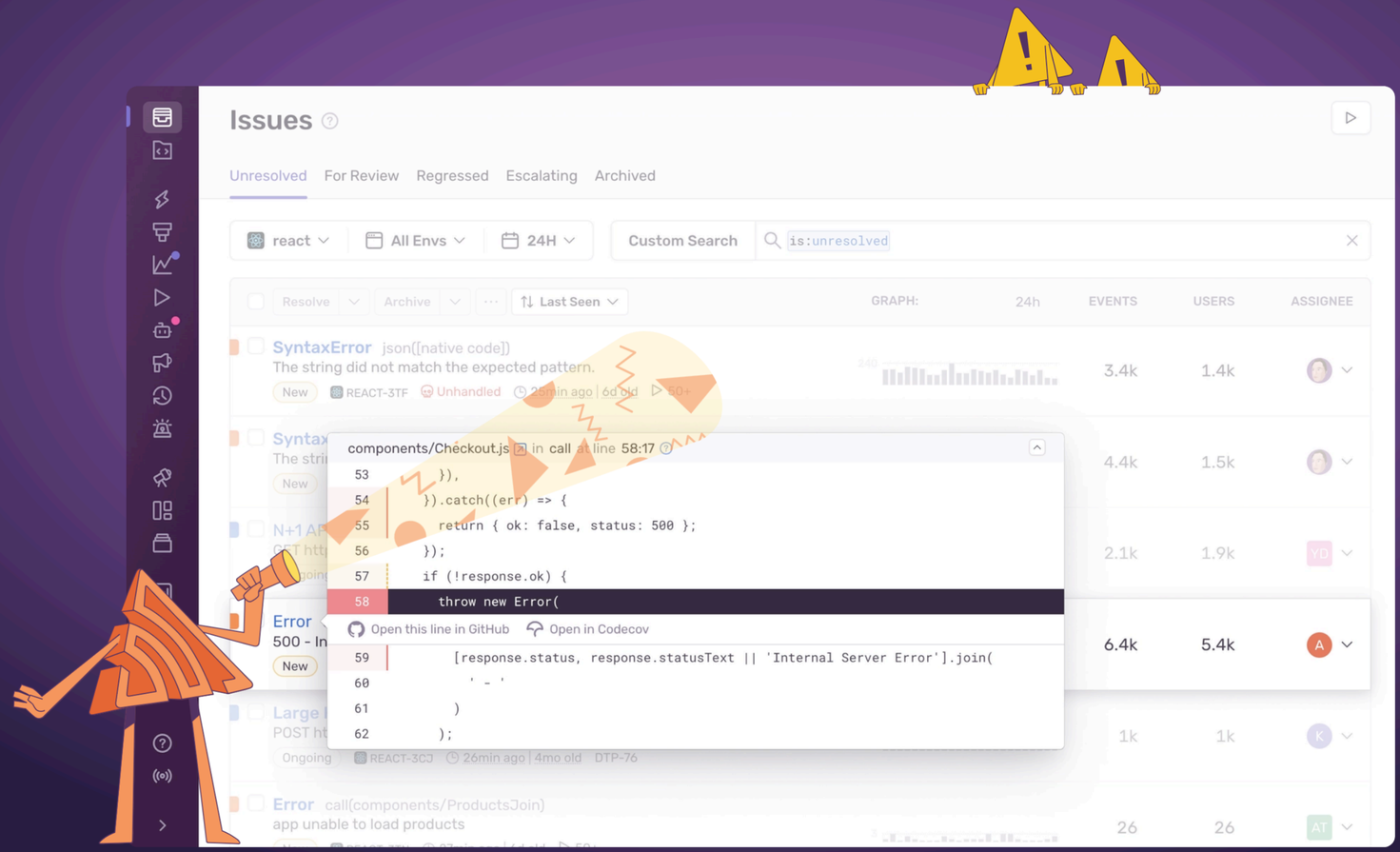
Code breaks, fix it faster

Application monitoring software considered "not bad" by 4 million developers.



WHAT'S THERE TO BUILD?

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RESEARCH AND PRODUCTS

- Technology companies often start out with a vision
- Then march towards development of that idea
- In many cases they are leveraging independent research
- Particularly startups do not typically have an R&D department

MODERN TECHNOLOGY MAKES THE IMPOSSIBLE POSSIBLE

- Compute and storage is becoming extremely cheap
- LLM/AI is being greatly subsidized by venture capital

“We set out to build a distributed database with zero latency”

A VISIONARY

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“We are building a storage system with in infinite storage”

ANOTHER VISIONARY

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UNDERSTAND WHAT CAN BE BUILD
UNDERSTAND HOW IT COULD BE BUILD

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IMPOSSIBLE VS EXPENSIVE

- It's very possible some things will never work
- But many things work with tradeoffs or approximation:
  - Sometimes the tradeoffs are compromising a key part of the experience
  - More commonly an approximation of the goal can work, but it's too expensive

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THINGS MIGHT CHANGE

- It might be too expensive today
- For some things advancements in computing can catch up with implementation time
- **When the cost drops below what the market is willing to pay, it becomes incredibly appealing**

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CONNECTING THE TECHNOLOGY WITH THE PRODUCT

- As a CTO you have to have a good understanding of what the market is willing to pay
- How to approximate this on the technology front
- And to use the foresight, developments and clever tradeoffs to inform the product side of the equation

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UNDERSTAND WHAT IT COSTS IN RELATION TO VALUE DELIVERED (WHAT A CUSTOMER IS WILLING TO PAY)

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CONSTRAINTS

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“The more constraints one imposes, the more one frees one’s self. And the arbitrariness of the constraint serves only to obtain precision of execution.”

IGOR FYODOROVICH STRAVINSKY

SETTING CONSTRAINTS

- Constraints are useful
- But constraints are better if they are meaningful
- Constraints ideally are informed by business objectives (cost, desired behavior)

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EXAMPLES FROM SENTRY

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MEANINGFUL CONSTRAINTS

- Business objective: **get started within 5 minutes**
  - As a user I can rely on the system automatically configuring itself
  - As a user I do not need to manually instrument my application to derive value from the product
- Business objective: **offer a simple 29 USD/month plan**
  - Constraint: people might not pay for excess traffic
  - Quota and rate-limiting aware SDKs
  - Sampling awareness

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UNDERSTAND AND LEVERAGE BUSINESS CONSTRAINTS. UNDERSTAND HOW VALUE IS DELIVERED

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WRONG BETS AND HEDGING

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KEEP VETTING

- Qualified assessment today
  - ➔ incorrect assumption about the state tomorrow

- Technologies and tastes can change
- Significant advancements can happen

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MEASURE THE RIGHT THING

- Incorrect measurements can lead to wrong conclusions
- Maybe what you measure doesn't matter

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THE BUSINESS IS WRONG

- Is the ask qualified?
- Does it have data to back up the bet?
- There might be data that disproves it

TELL THE STORY

- Some ideas are not right for the time
- Marketing and Brand can help with story telling
- If it's worth doing

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THINGS CHANGE. MEASURE. PUSH BACK. LEVERAGE THE BUSINESS TO TELL THE STORY.

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TALK TO ME :)

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- Twitter/X: x.com/mitsuhiko

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OPEN SOURCE PLEDGE

Pay your share

Whether you're a CEO, CFO, CTO, or just a dev, chances are your company depends on Open Source software. It's time to pledge back.

1 Pay Open Source maintainers

The minimum to participate is $2,000 per year per developer at your company.

2 Self-report annually

Each year, publish a blog post outlining your payments to maintainers.

OSSPledge.com