

Technical Debt: The Silent Project Killer

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March 2019

The metaphor

Symptoms

Reasons

Types

Debt Management

Summary



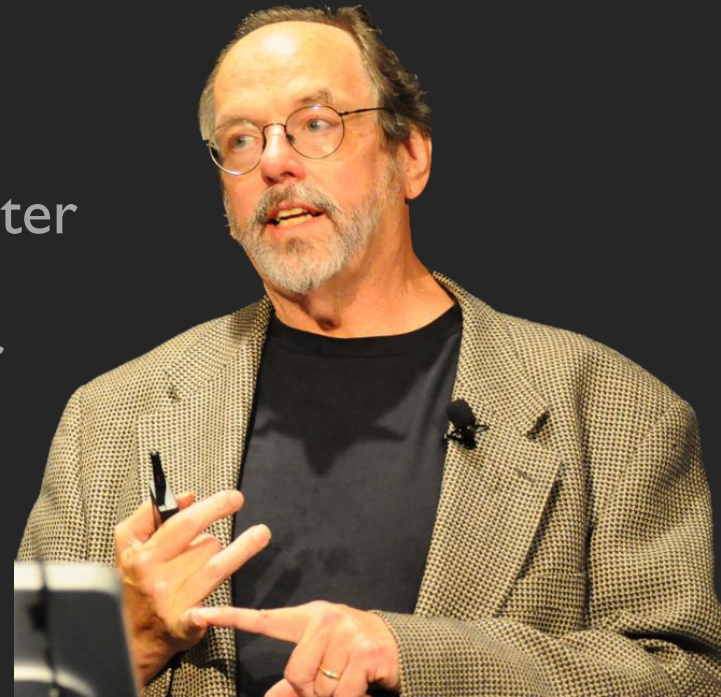
Technical Debt

is a metaphor developed by Ward Cunningham
in 1992 to communicate problems due to
“developing not in the right way”

Financial : Borrow **money** to be paid later

Technical : Borrow **time** to be paid later

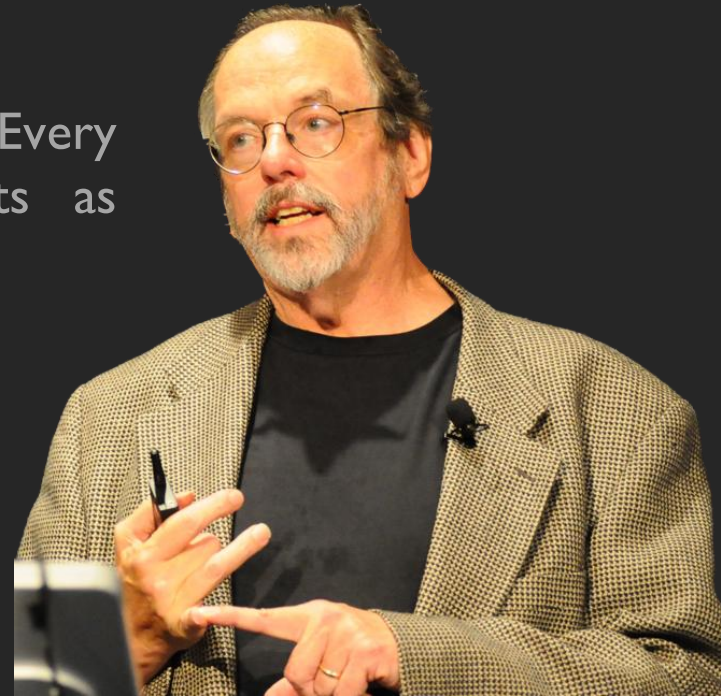
<https://www.youtube.com/watch?v=pqeJFYwnkjE>



Technical Debt Motaphor

Shipping first-time code is like going into debt. A little debt speeds development so long as it is paid back promptly with a rewrite....

The danger occurs when the debt is not repaid. Every minute spent on not-quite-right code counts as interest on that debt.



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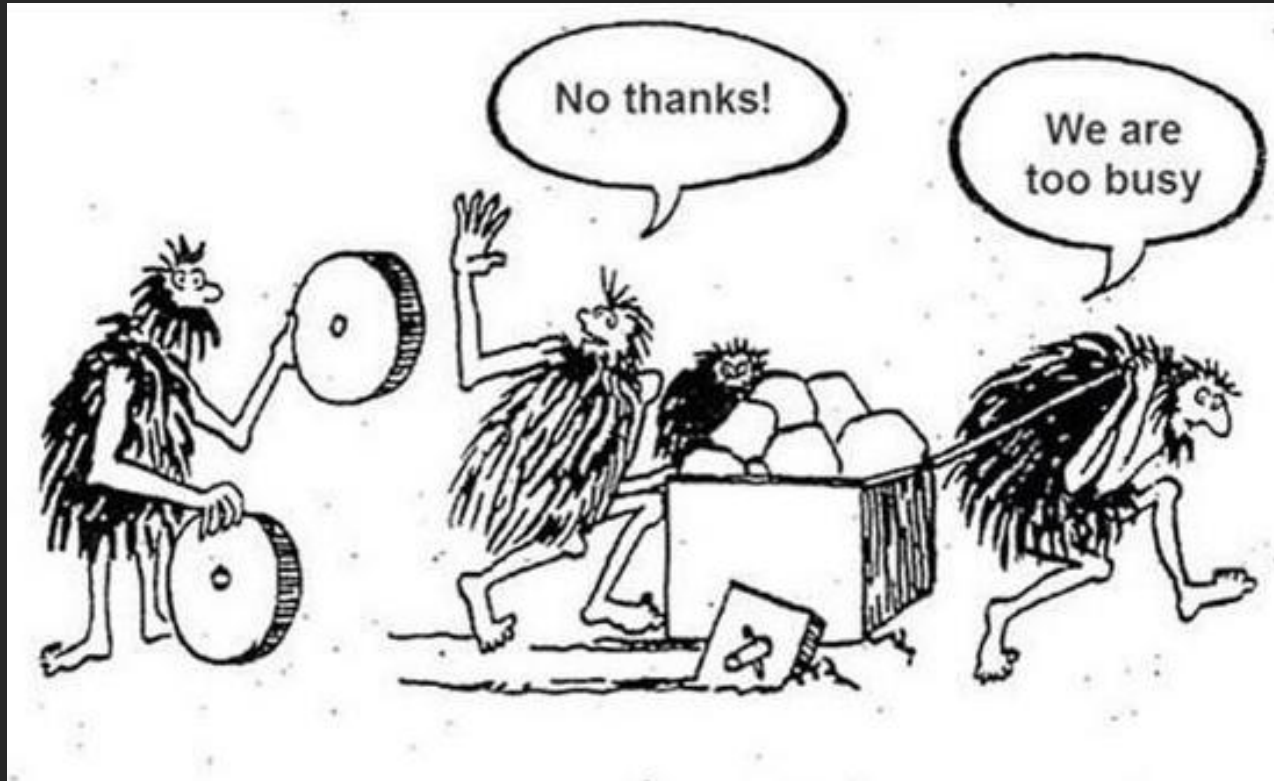
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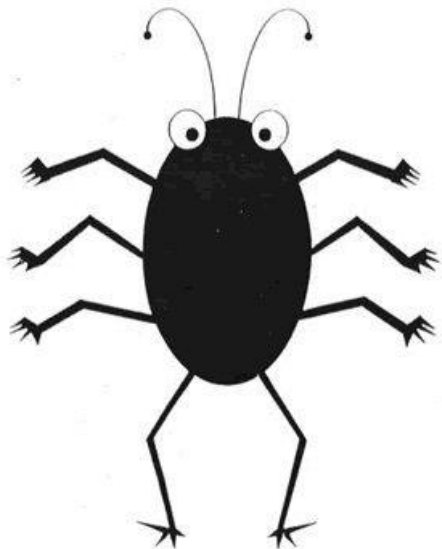


Reduced team velocity

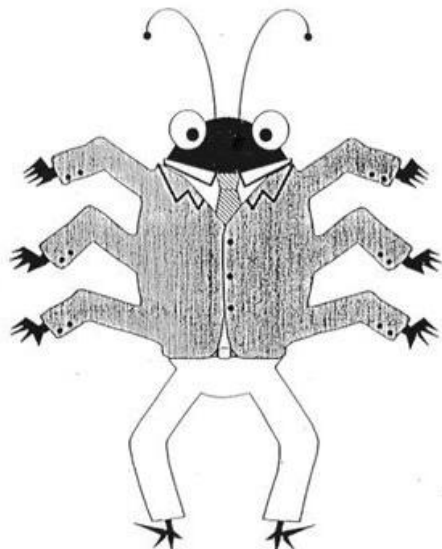


Picture from: <https://www.linkedin.com/pulse/dealing-technical-debt-within-agile-teams-ahmed-hammad>

Bugs, bugs and more bugs



BUG



FEATURE

Frustrated developers



<https://www.techrepublic.com/article/the-five-biggest-headaches-for-software-developers/>

Common sayings . . .

“Don’t worry about the documentation for now.”

“It’s ok for now but we’ll refactor it later!”

“I know if I touch that code everything else breaks!”

“Let’s finish the testing in the next release.”

“The release is coming up, so just get it done!”

The metaphor

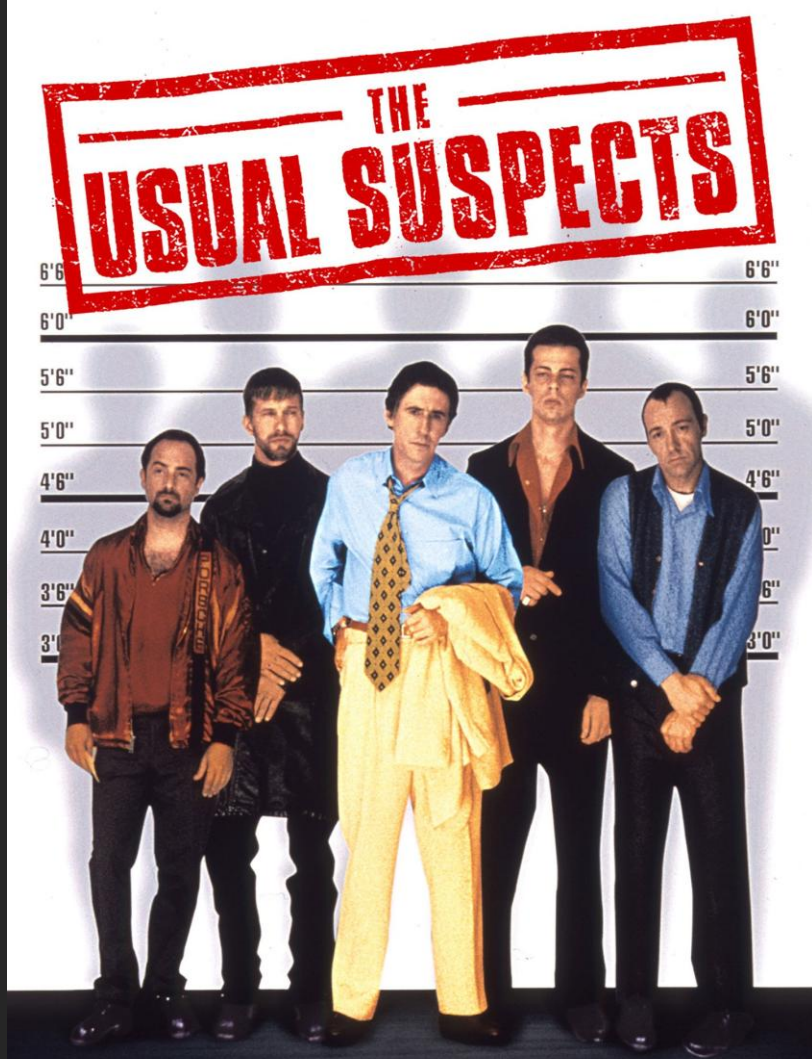
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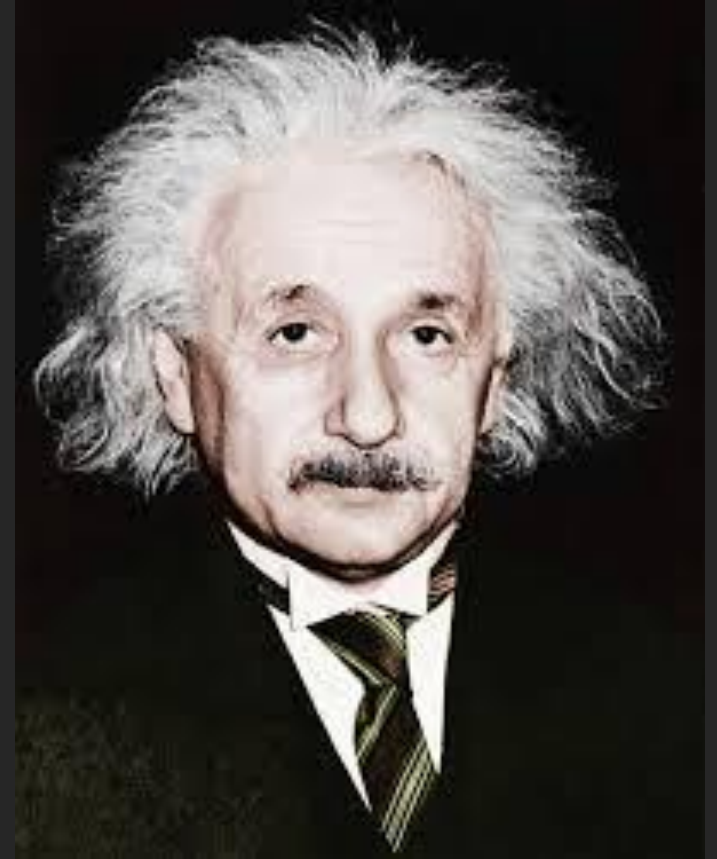
Debt Management

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The departed genius

“X wrote this and no-one else understands it”



The self sufficient developer

“X didn’t agree with / understand what
Y had done so (s)he re-wrote the
same functionality to run alongside it”

**I’M NOT
STUBBORN**
MY WAY IS JUST BETTER

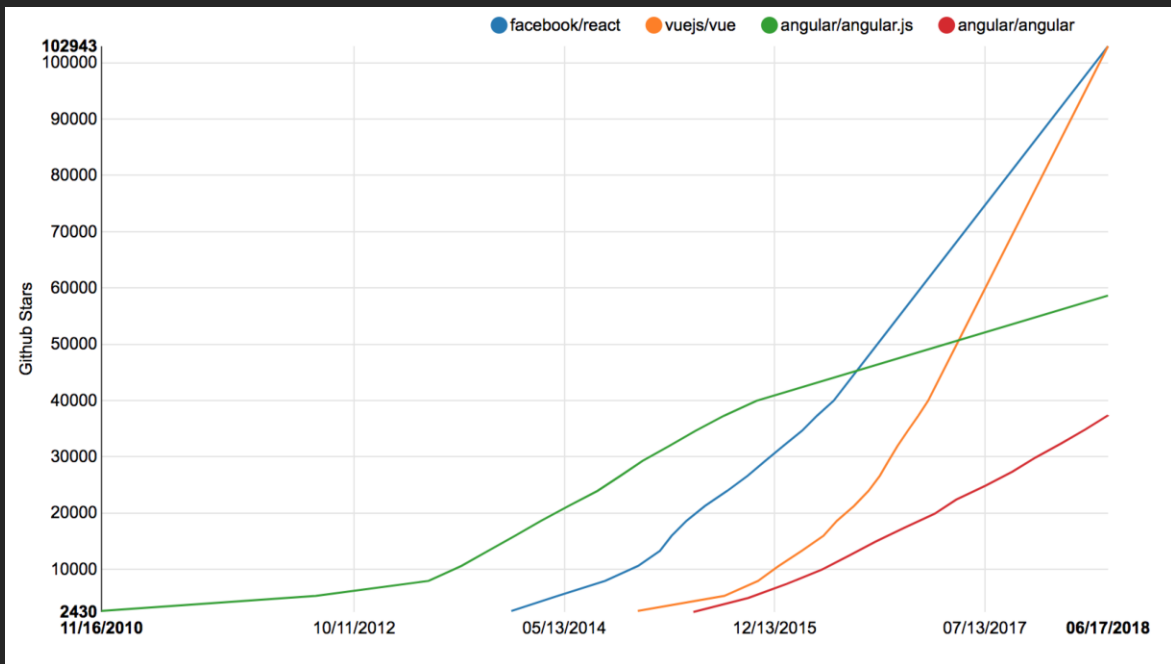
Not every “next big thing” actually becomes one

Indicators

- Github stars
- Stackoverflow questions
- Ranking by

Major Factors

- ~~System's merits~~
- Community
- Backing TECH giant



Retired software stack

“Where Zope leads, Python follows”

Python community - around 2000



<https://www.slideshare.net/regebro/zope-is-dead-long-live-zope>

<https://www.slideshare.net/AlexanderLoechel/plone-a-history-of-python-web>

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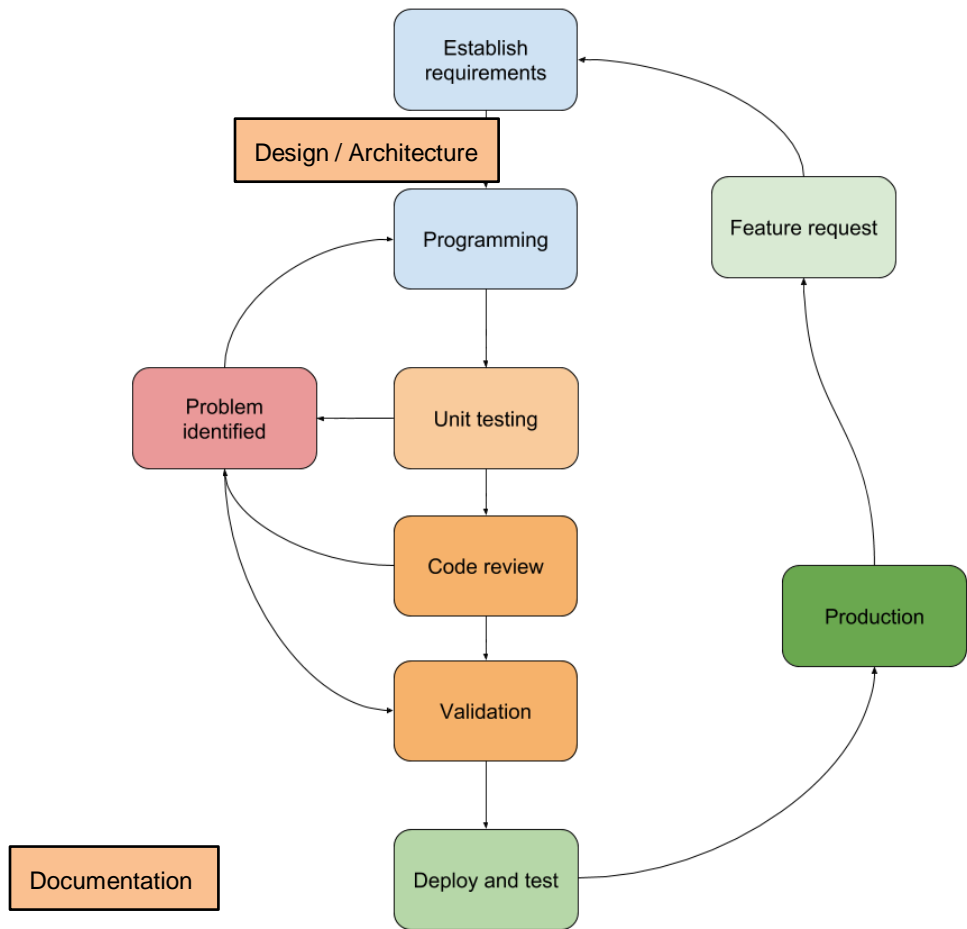


How did it happen ?

1. Deliberate debt
2. Accidental / Outdated design debt
3. Bit rot debt
4. Inherited debt



When did it happen?



Which aspect ?

ISO/IEC 25010

Portability

- Adaptability
- Installability
- Replaceability

The quality model is the corner stone of the evaluation system. The quality model determines which aspects will be taken into account when evaluating the properties of a software product.

The quality of a system is the degree to which the system satisfies the stated and implied needs of its various stakeholders. The quality model provides value. The quality model (functionality, performance, security, maintainability, etc.) are precise and measurable. The quality model product quality into characteristics and sub-characteristics.

The product quality model of ISO 25010 comprises the eight quality characteristics shown in the following diagram.

Maintainability

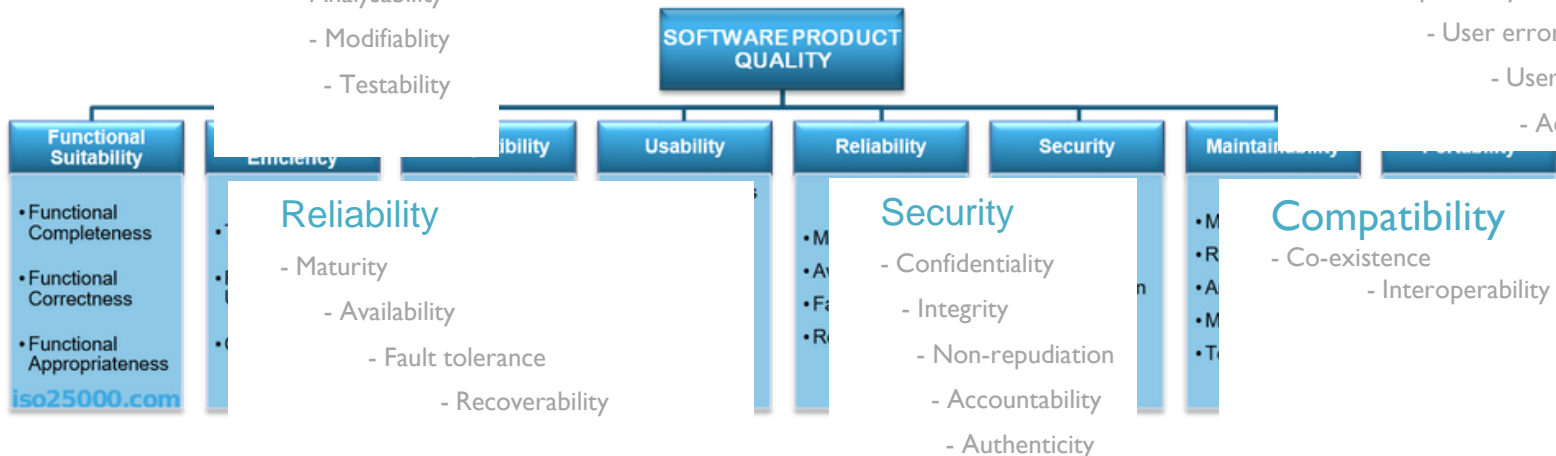
- Modularity
- Reusability
- Analysability
- Modifiability
- Testability

Performance efficiency

- Time behavior
- Resource utilization
- Capacity

Usability

- Appropriateness recognizability
- Learnability
- Operability
- User error protection
- User interface aesthetics
- Accessibility



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1. Awareness

PIs / Project Managers

Senior Developers

Junior Developers

READ THE SIGNS.
The Universe is
TALKING TO YOU
all the time.

2. Avoidance culture

Do it correctly now , or

Do it soon (really really soon)

Later → Never

**Clean
Your Room
Quickly**
(AND KEEP IT THAT WAY!)



QUIRKY
INSPIRED

3. Debt Registration

Option I: Dedicated tech-debt backlog

Option II: Together with feature backlog



4. Commitment

Pay **high interest**
debt first

Have a **sustainable**
installment plan



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