

#JCON2022
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JAVAPRO

Simply Good Tests

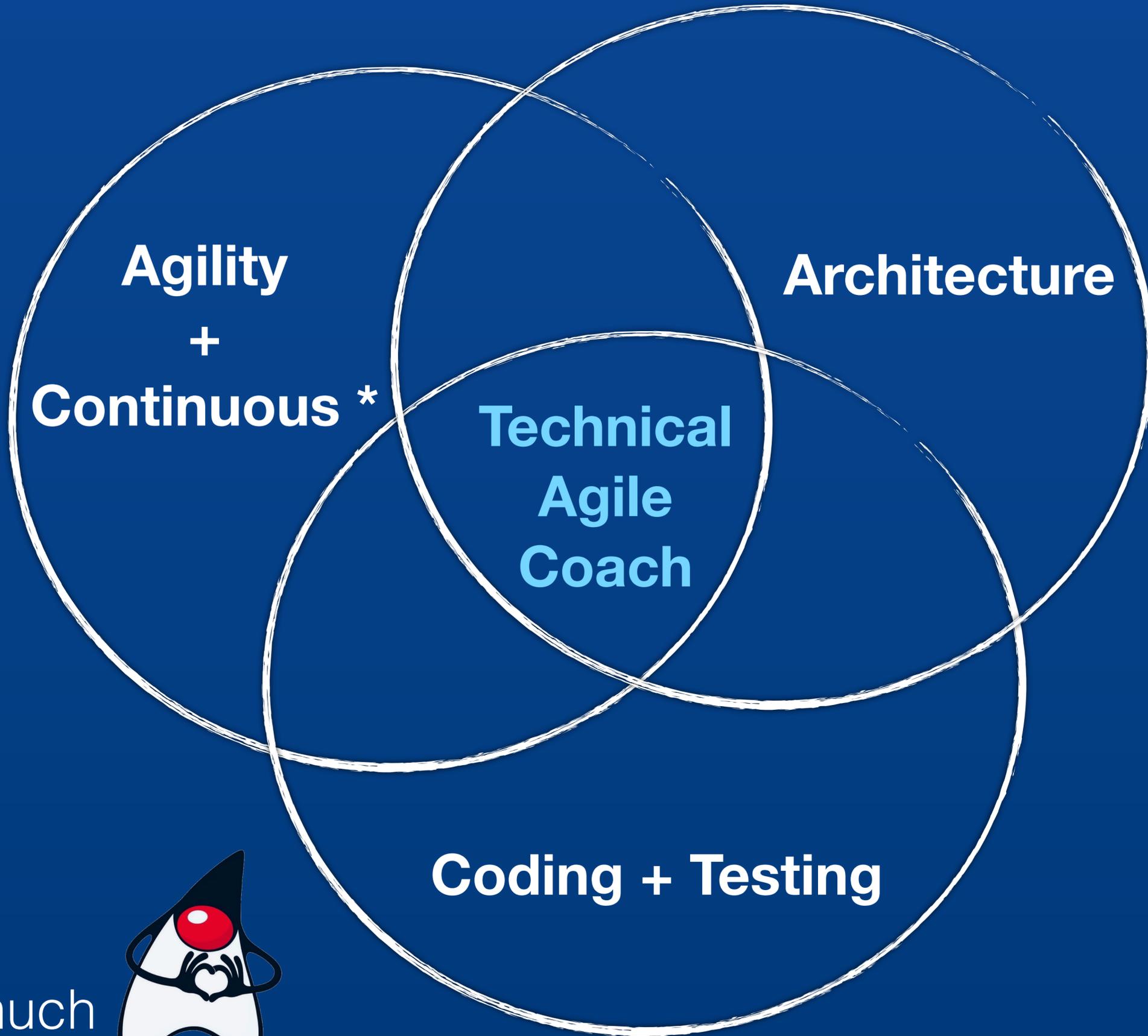
A Practical Approach

Thomas Much
 @thmuch

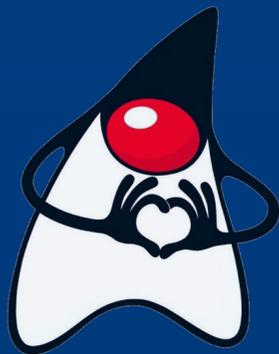
20 September 2022



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Brief introduction with a couple of slides

Live coding

Short roundup

Q & A

Why this session?

career changers

newcomers

returnees

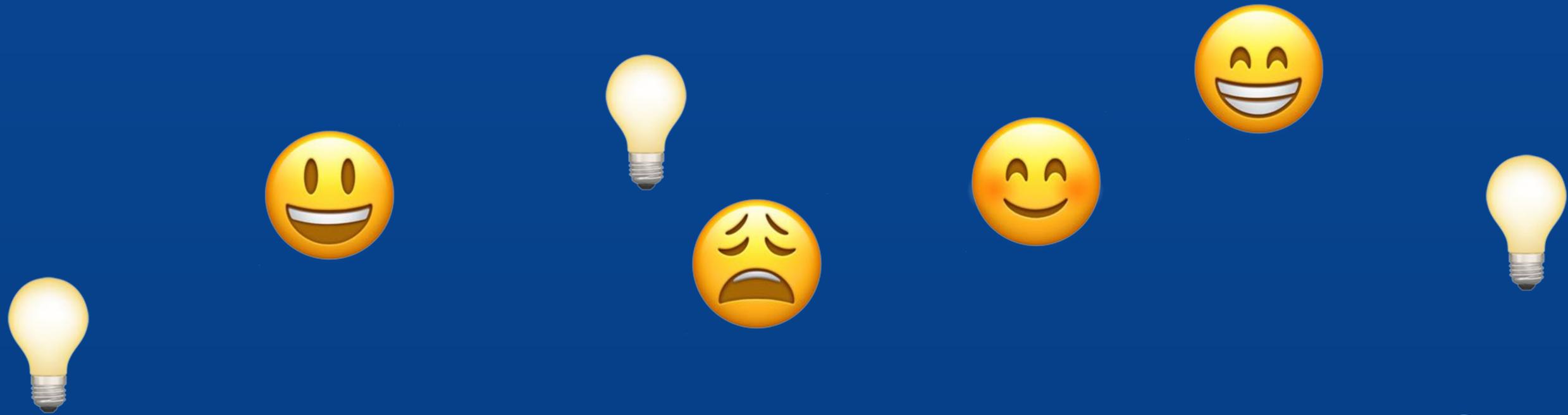
copy & paste

cargo
cult

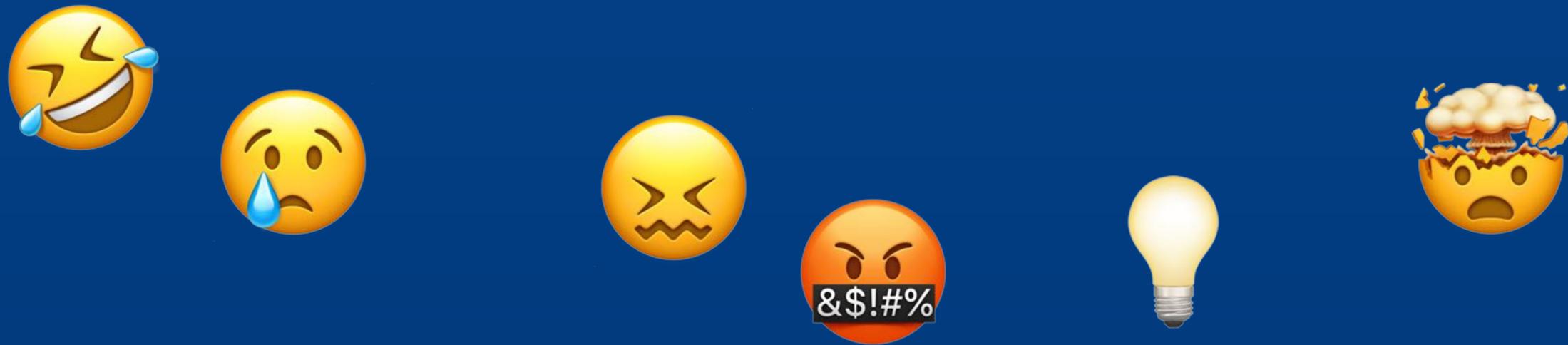
Beginners

Tradition

Basics. Good practices.



What are "good tests"?



Reasons against good tests

not
maintainable
anyway

always
broken
anyway



not
readable
anyway

too
slow
anyway

Not now,
we don't have time



Retesting is
stupid & expensive

Let's just get
high code coverage



So much quality
costs too much

How to test?

TDD?

Test Driven **Design** & Development

Test First? Test Soon Enough?!

Definitely not "all tests up front"!

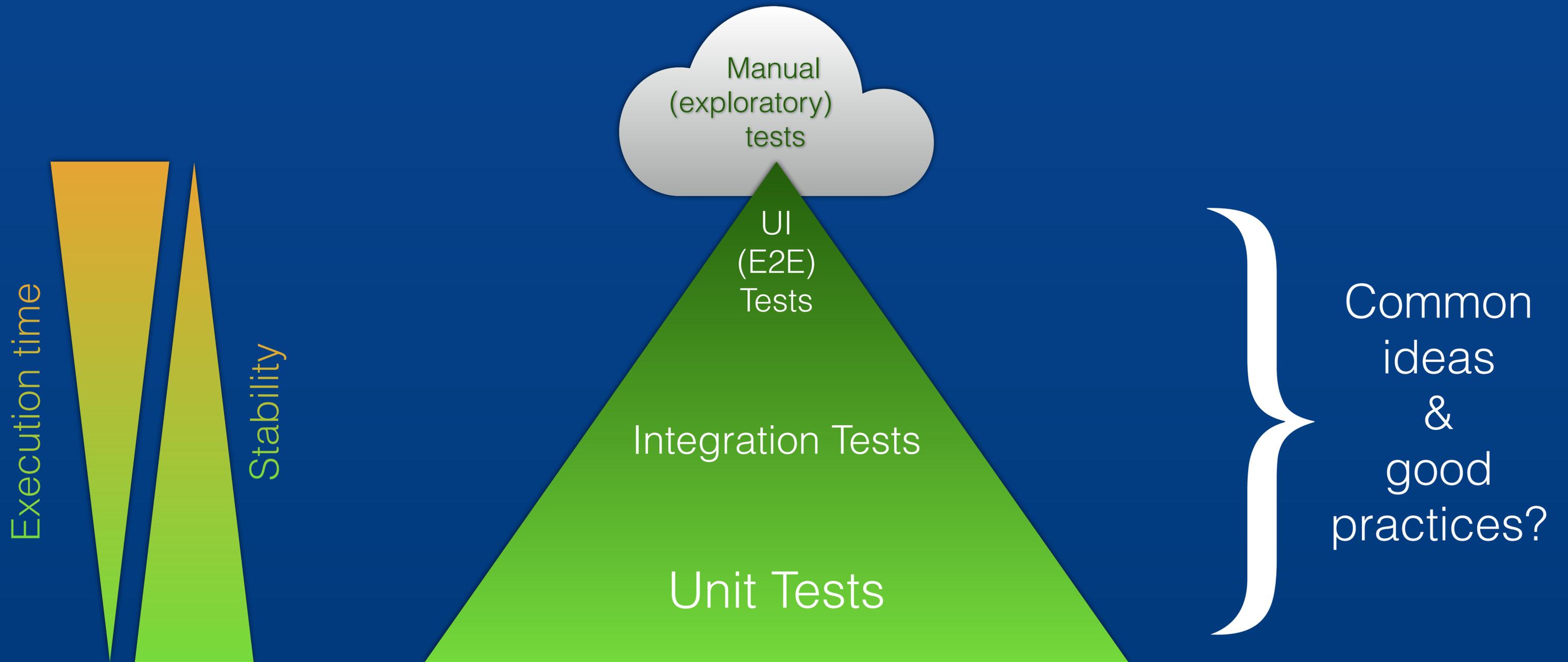
"Accompanying tests"

Step by step

Small experiments!



Classic Test Pyramid



Requirements:

With the `SushiService`,
a `customer` can order a `menu`.

The service returns an `order number`.
An order number is an `8-digit number`
that starts with the digit "1".

Ordering à la carte is out of scope for this task.

Live Demo

[https://github.com/**thmuch**/**simply-good-tests**](https://github.com/thmuch/simply-good-tests)

Recap

Understandable, Maintainable Tests

Every test method tests **one thing**

Given/When/Then or Arrange/Act/Assert helps

Prefer **explicit setup**

Avoid surprises from implicit "magic"

Naming etc.: Don't think about it too long!

Better **improve little by little**

„Make it work, make it beautiful, make it fast“

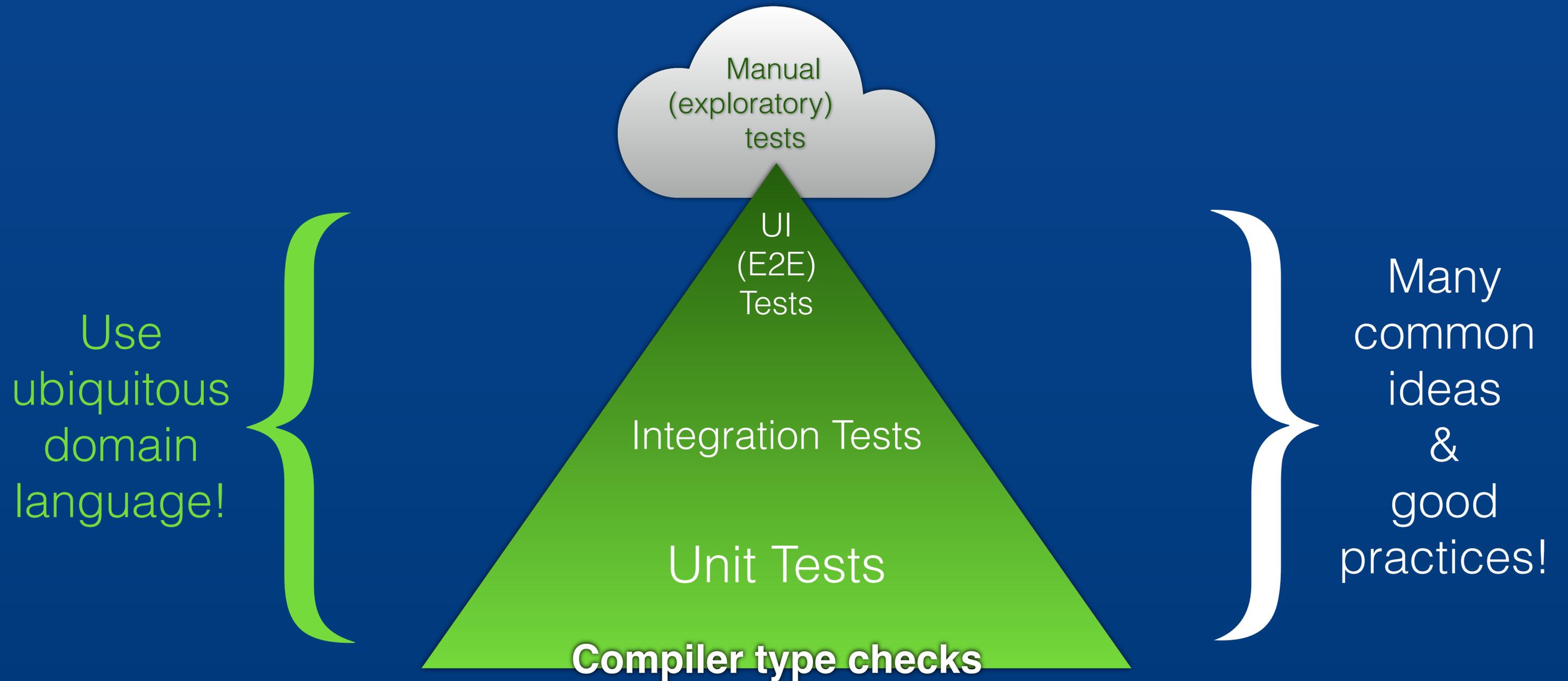


Programming Wisdom
@CodeWisdom

"Make it work, then make it beautiful, then if you really, really have to, make it fast. 90 percent of the time, if you make it beautiful, it will already be fast. So really, just make it beautiful!" – Joe Armstrong

6:15 nachm. · 7. Apr. 2021 · Buffer

Test Pyramid (Reprise)



Not "stupid"
Surely **clean!**

Optimized for
reading

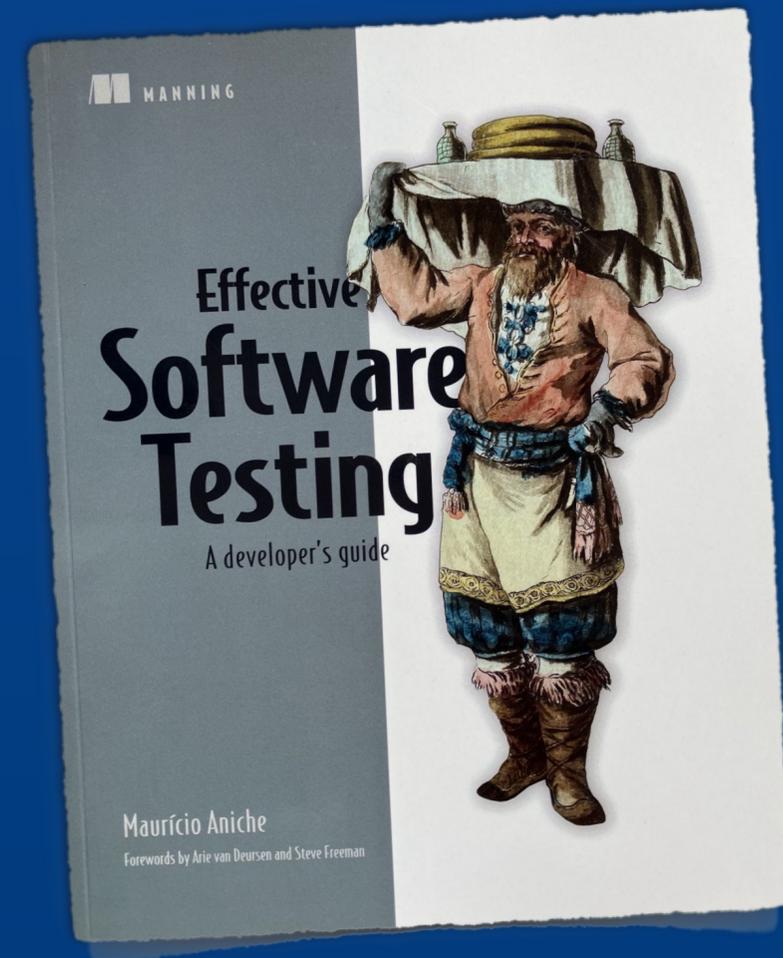
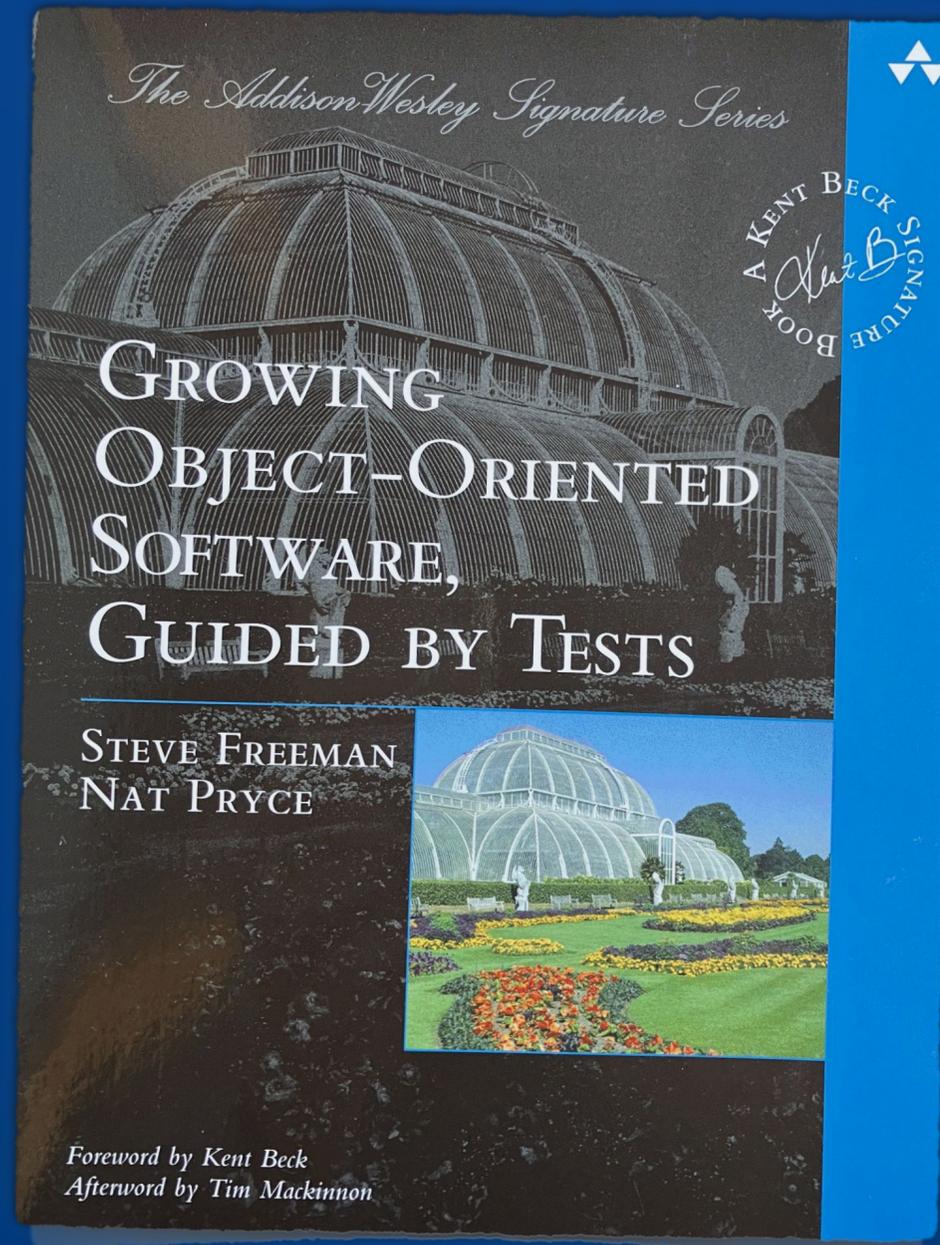
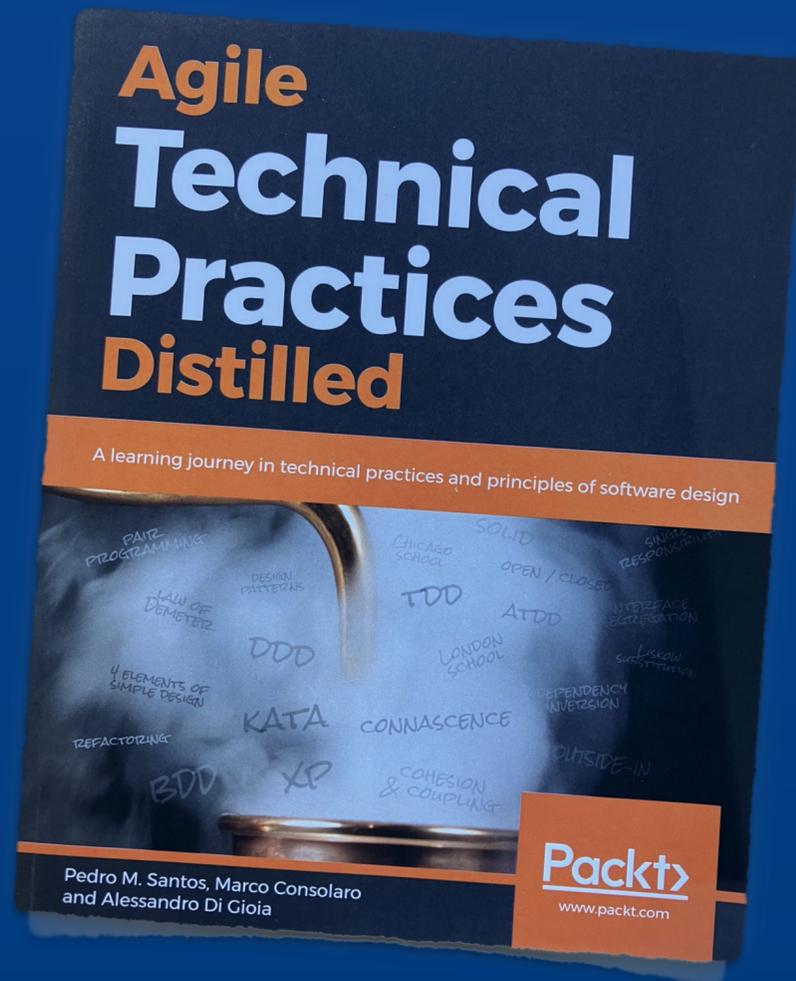
Without
"magic"

Without surprises

Write. Boring. Code.

Even in tests.

Read Good Books





Good Tests

Test First

Test Pyramid

Naming

TDD

JAVAPRO

Stability

Questions?

Micro Tests

Test data

Unit Tests

Given-When-Then

Code Coverage

Readability

Maintainability

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Thank you 😊



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Further Reading

- <http://agileinaflash.blogspot.com/2009/02/first.html>
- <https://docs.microsoft.com/en-us/dotnet/core/testing/unit-testing-best-practices>
- Steve Freeman, Nat Pryce, "Growing Object-Oriented Software, Guided by Tests", 2009
- Maurício Aniche, "Effective Software Testing", 2022
- Pedro M. Santos, Marco Consolaro, Alessandro Di Gioia, "Agile Technical Practices Distilled", 2019
- Kent Beck, "Test-Driven Development by Example", 2002
- Michael C. Feathers, "Working Effectively with Legacy Code", 2013
- Emily Bache, "Mocks, Fakes and Stubs", 2013