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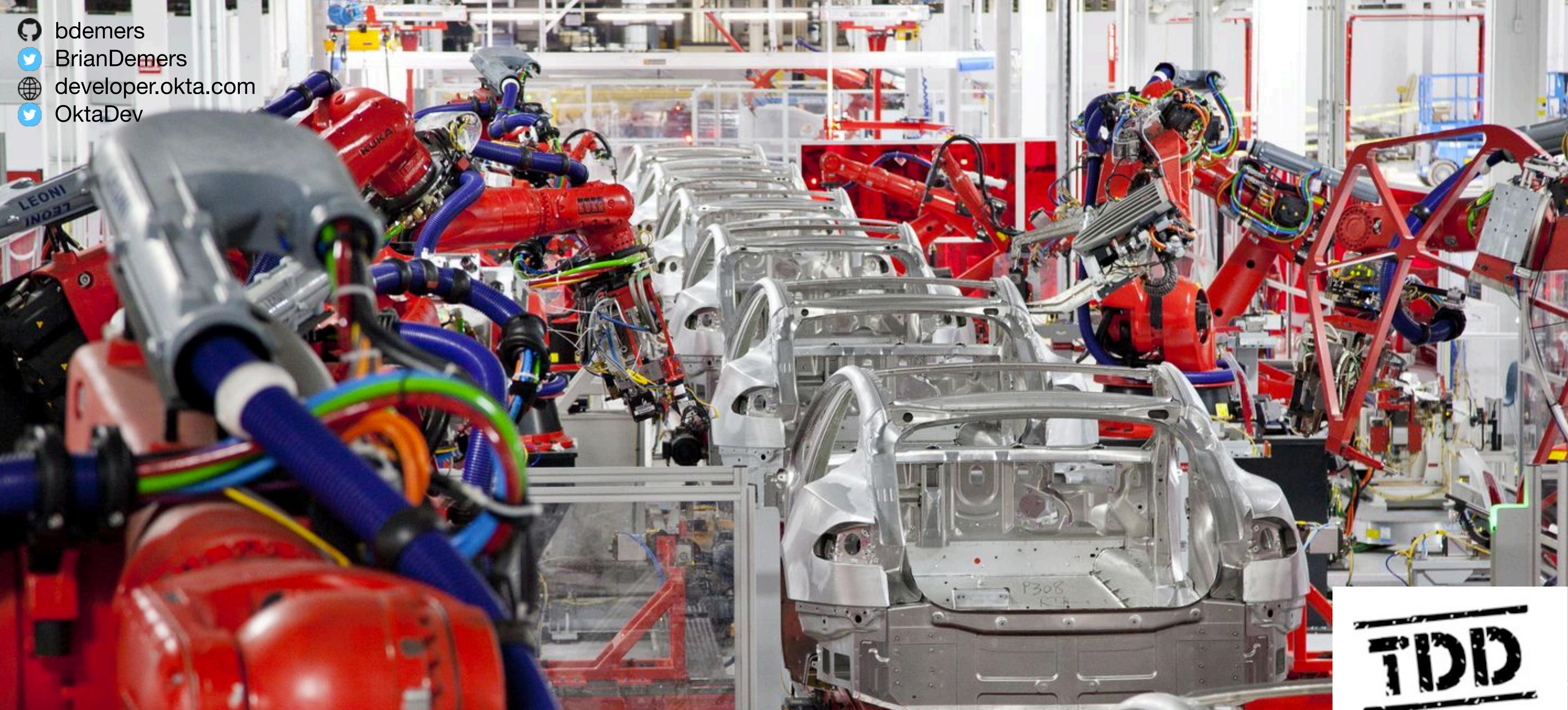
TEALS
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1

8



Testing is Confidence

A Developer's Perspective

Brian Demers
Developer Advocate @ Okta
bdemers@apache.org

TDD

ALL CODE IS GUILTY
UNTIL PROVEN INNOCENT

{okta}

Who is this guy?



codemonkey.fm



Sonatype
Nexus

Maven™

{okta}

Topics

- Why do we test ?
- Types of Testing
- Best Practices

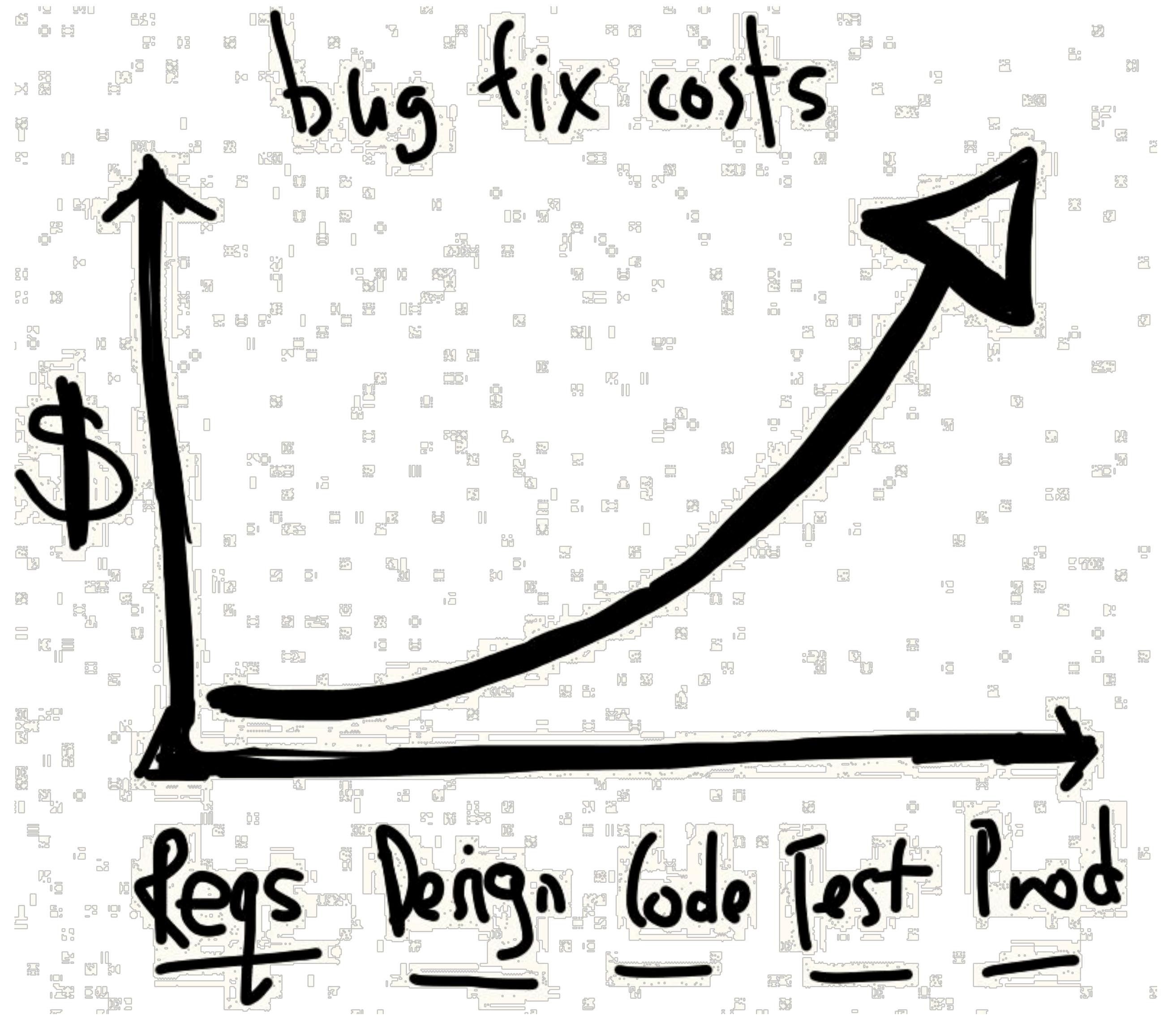
Why do we test ?



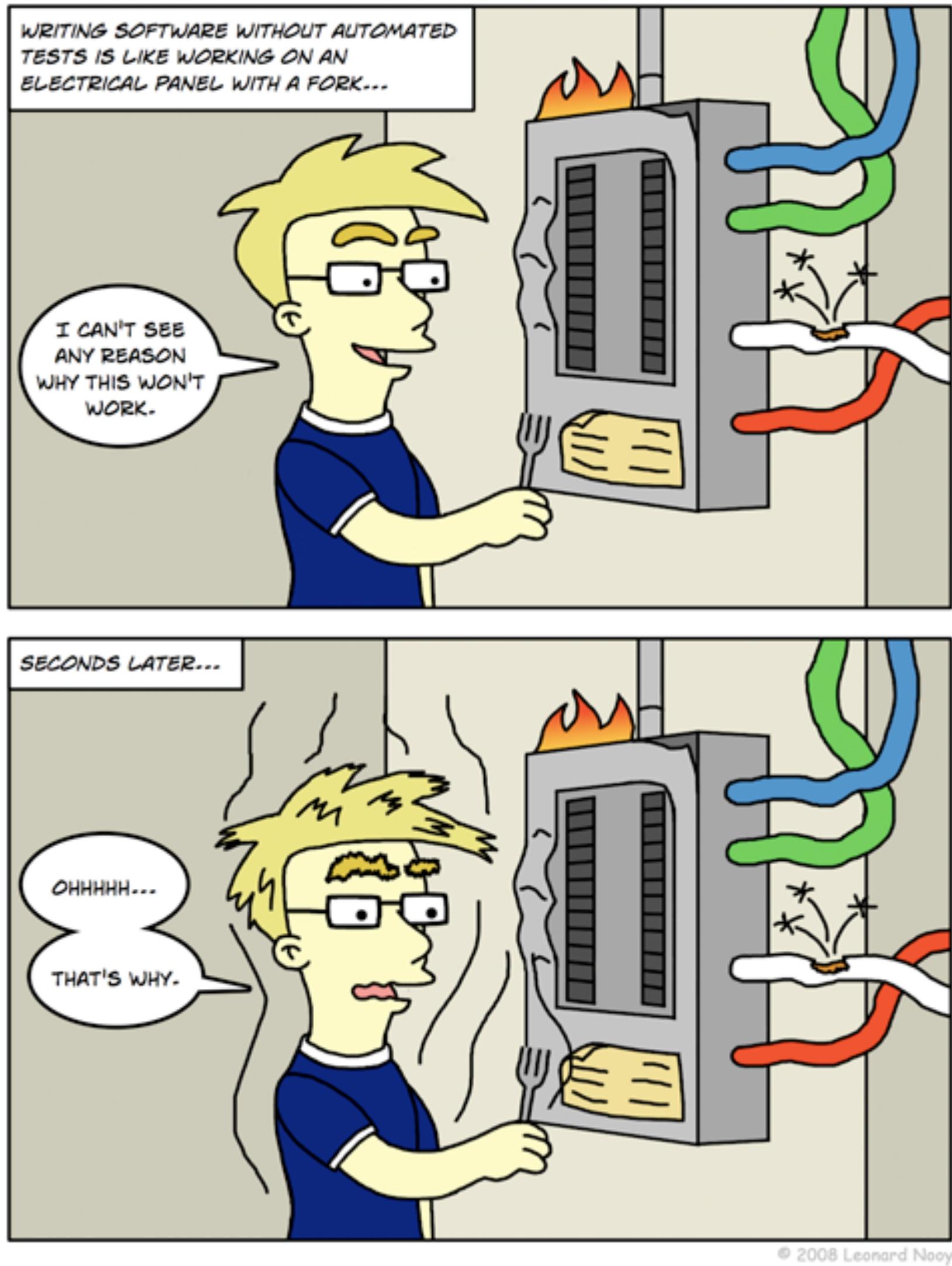
LEGACY CODE

Welcome to the project!
Here's the codebase.

seantheflexguy.com/blog



Why do we test ?



Testing is Confidence



Types of Testing

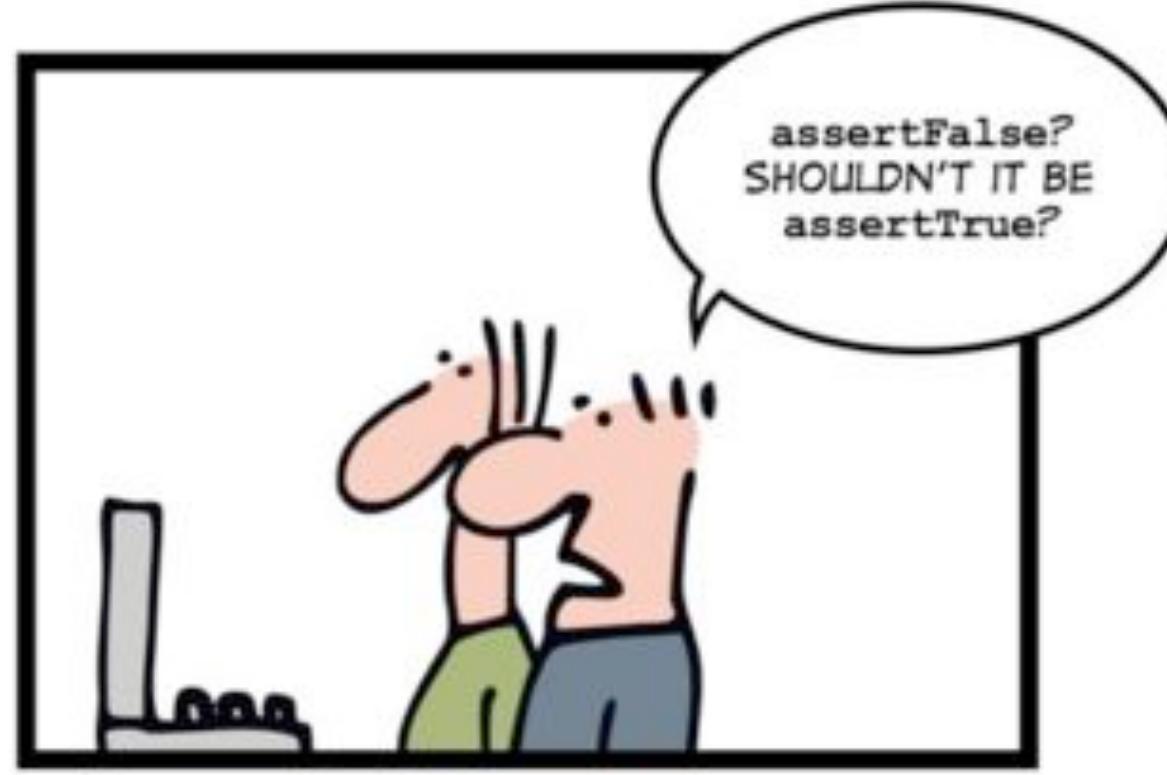
- Manual
- Unit
- Component
- Integration
- Functional
- Non-Functional

Manual Testing

Usability

Filling in the non-automated gaps

Exploratory



Unit Testing

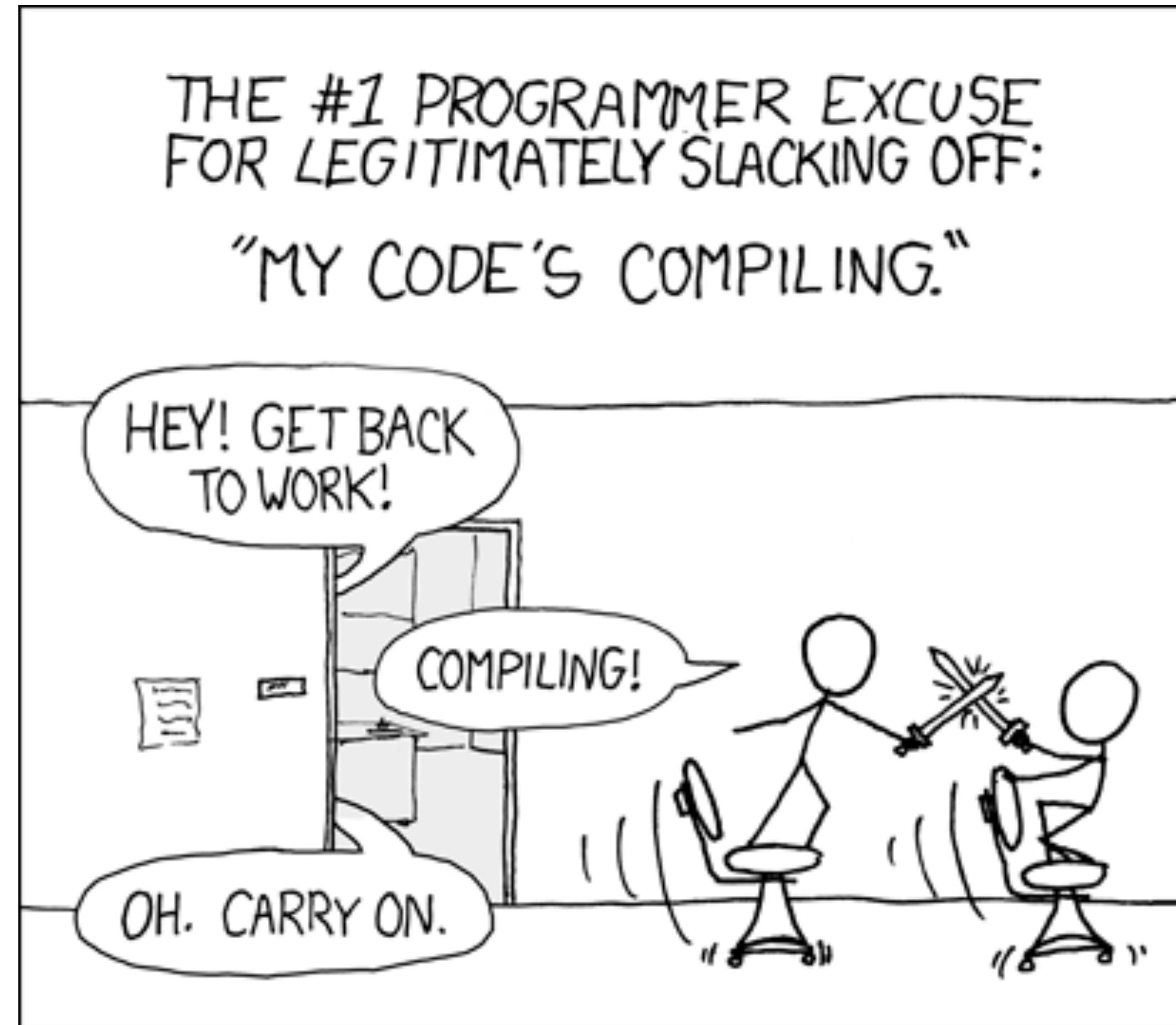


- Tests for isolated chunks of code
- NO external dependencies
- Fast

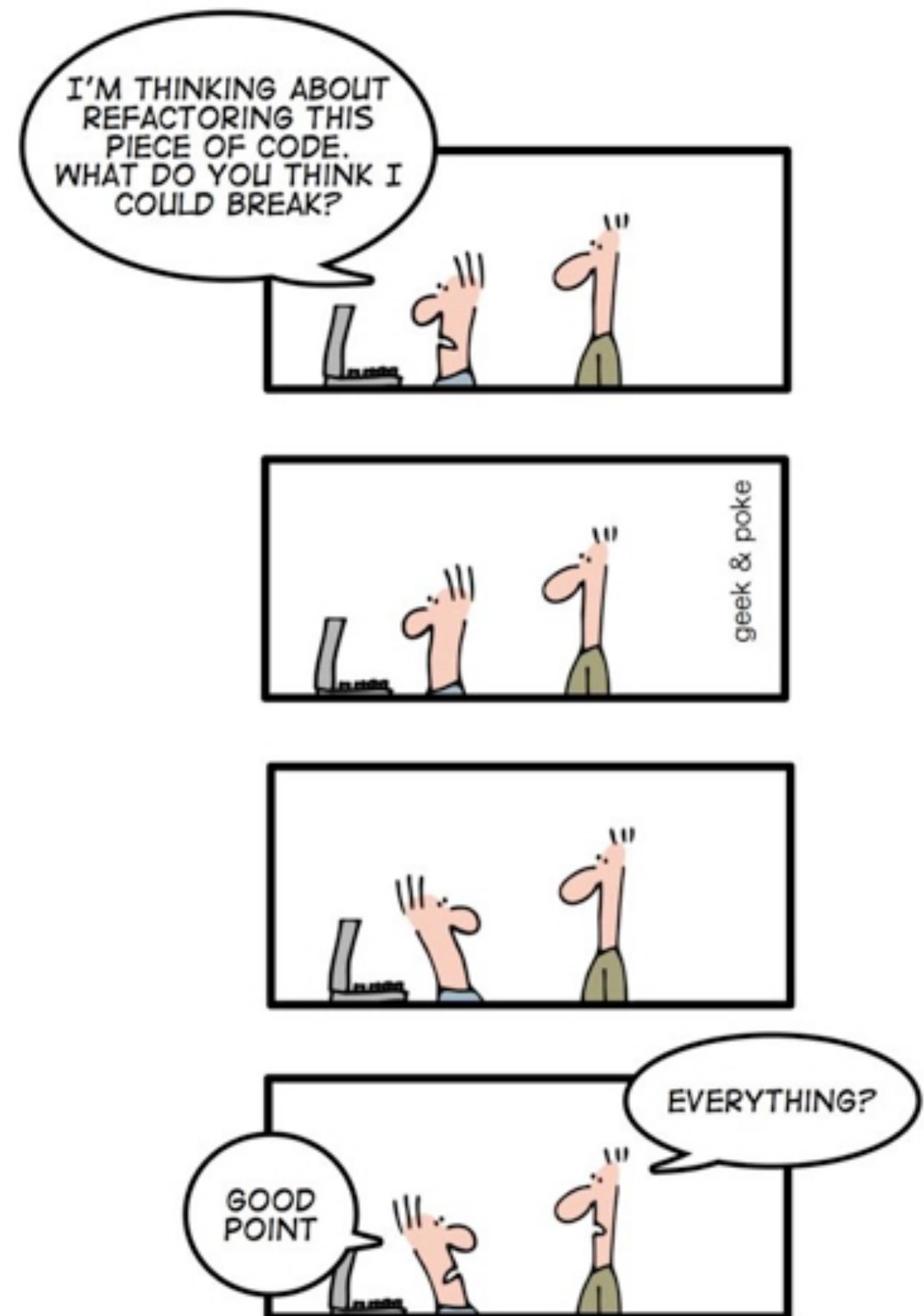
What to Test ?



Unit Tests must be FAST to avoid context switching

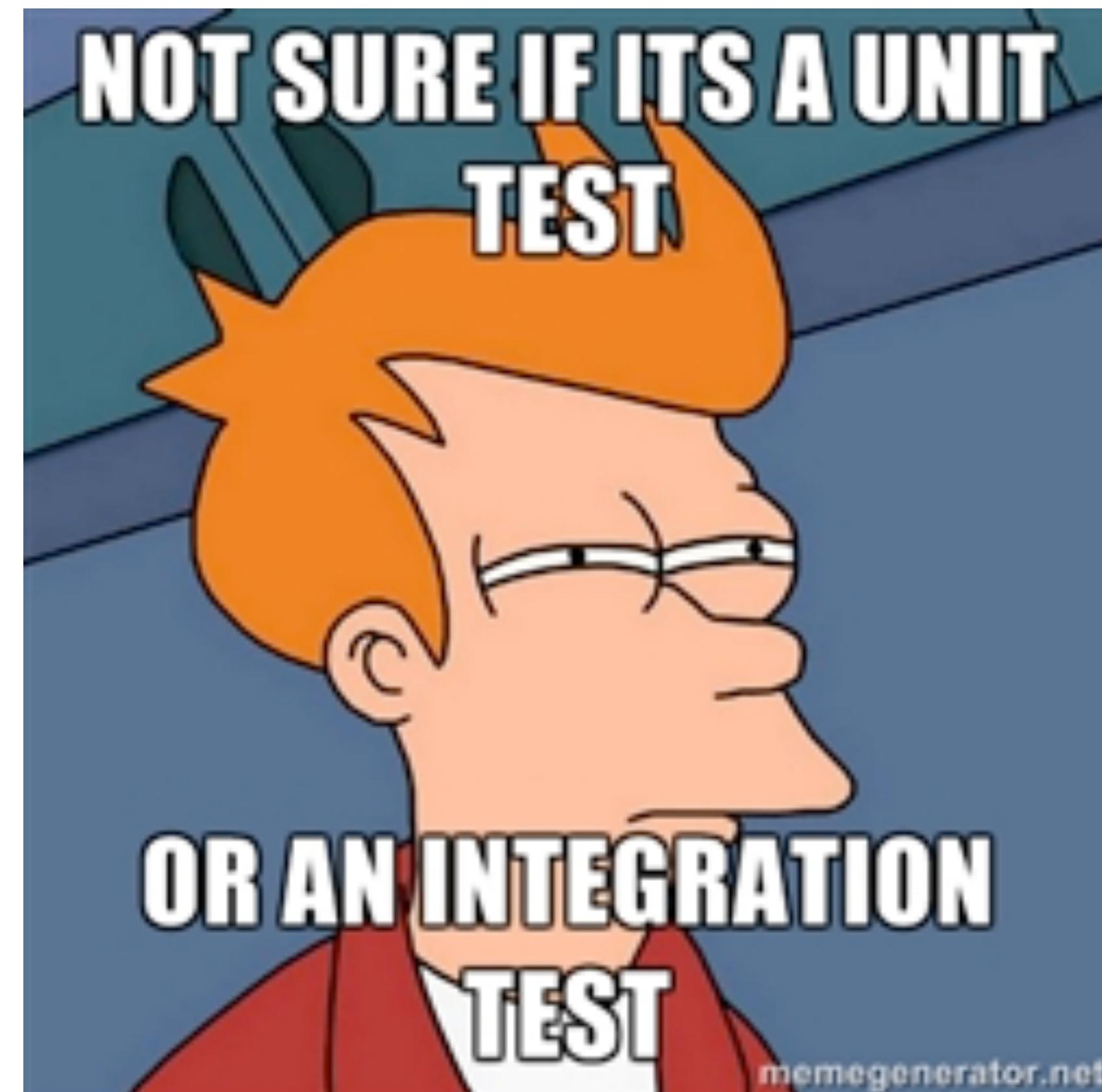


You cannot refactor without unit tests



Component Tests

(anti-pattern)



Component Tests

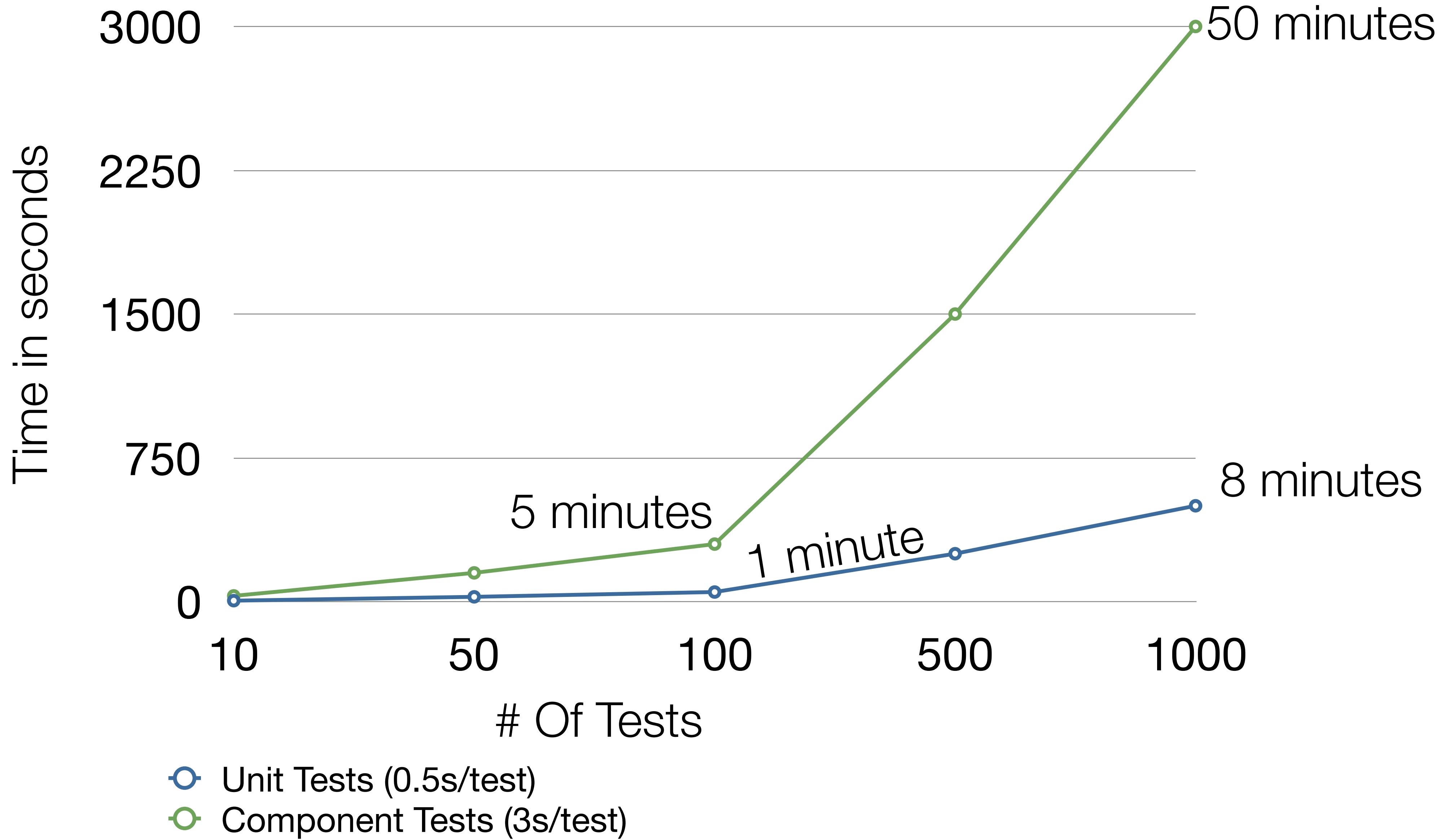
(Not always bad)

Spring & Guice Binding

Integrating with Systems

Custom Database Logic

Unit vs Component Tests



Quality of Test Code



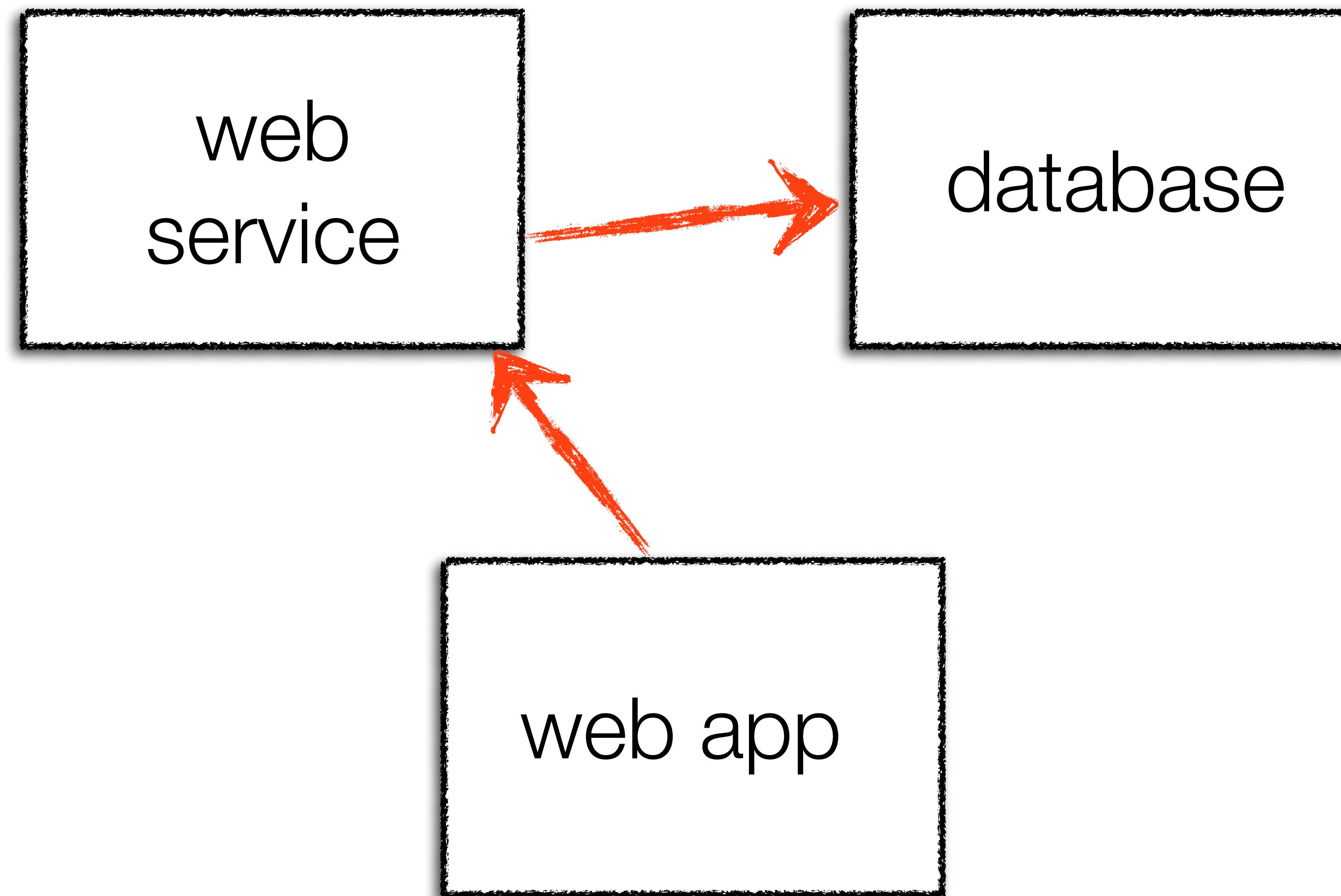
Integration Tests

Aggregates other chunks of code and tests them together

High Level Tests

Has external dependencies

Test the Interactions



Title Text

```
[INFO] Okta Java SDK ..... SUCCESS [ 2.991 s]
[INFO] Okta Java SDK :: Swagger Templates ..... SUCCESS [ 2.539 s]
[INFO] Okta Java SDK :: API ..... SUCCESS [ 7.532 s]
[INFO] Okta Java SDK :: Impl ..... SUCCESS [ 18.842 s]
[INFO] Okta Java SDK :: Extensions :: HTTP Client .... SUCCESS [ 11.552 s]
[INFO] Okta Java SDK :: Integration Tests ..... SUCCESS [04:31 min]
[INFO] Okta Java SDK :: Examples ..... SUCCESS [ 0.036 s]
[INFO] Okta Java SDK :: Examples :: Quickstart Code .. SUCCESS [ 7.390 s]
[INFO] Okta Java SDK :: Coverage ..... SUCCESS [ 1.401 s]
```

Functional Testing

Tests a user's action and the result as seen by the user.

User Story:

As a **user**, I want to **search** for **my customers**
by their **first** and **last names**.

Non-Functional Tests

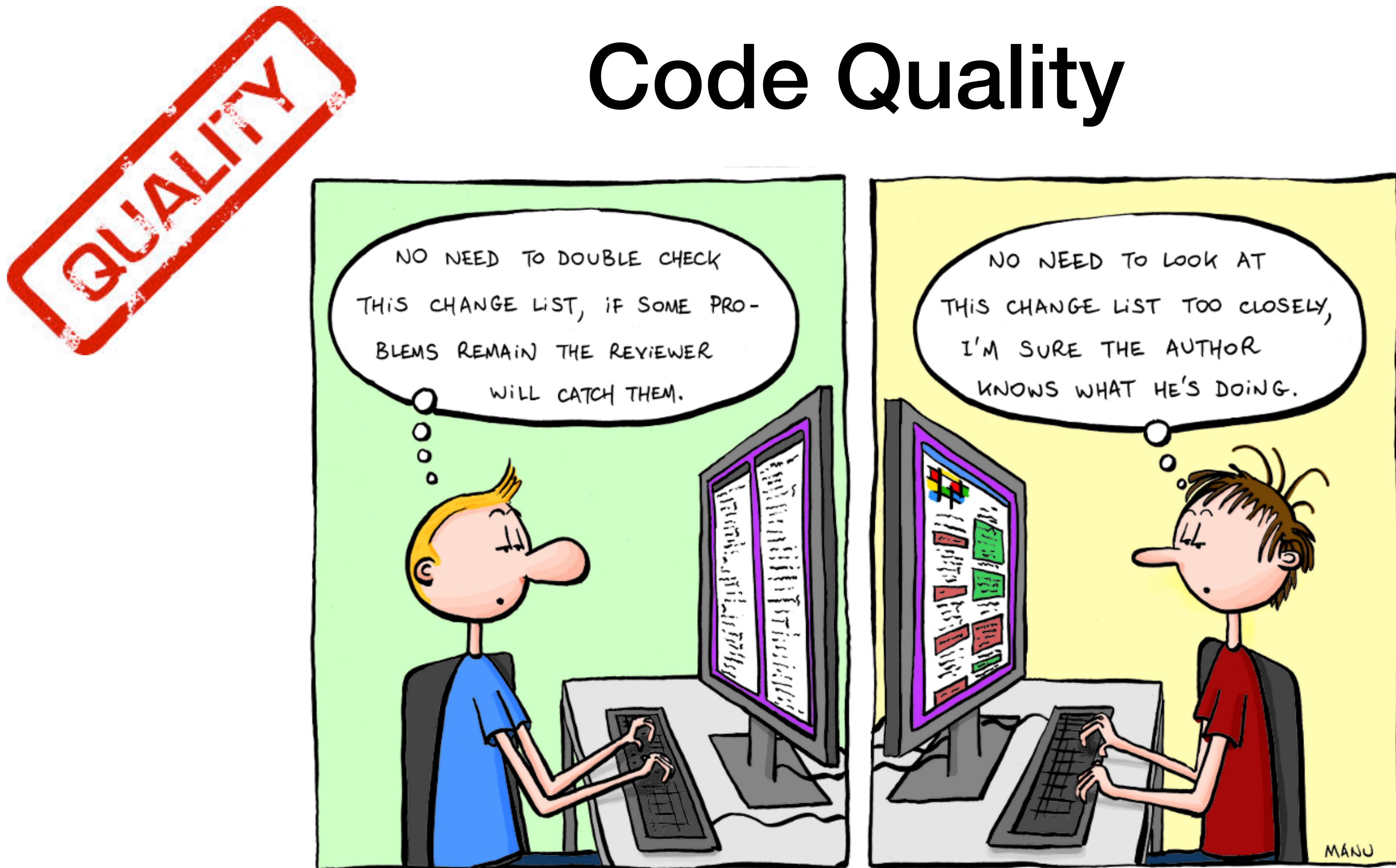
- Performance
- Capacity
- Quality
- Security
- Backup
- Fail-over
- Licensing
- ...

WHEN YOU HEAR THIS:



*YOU KNOW YOU'RE IN A
SOFTWARE PROJECT*

Code Quality

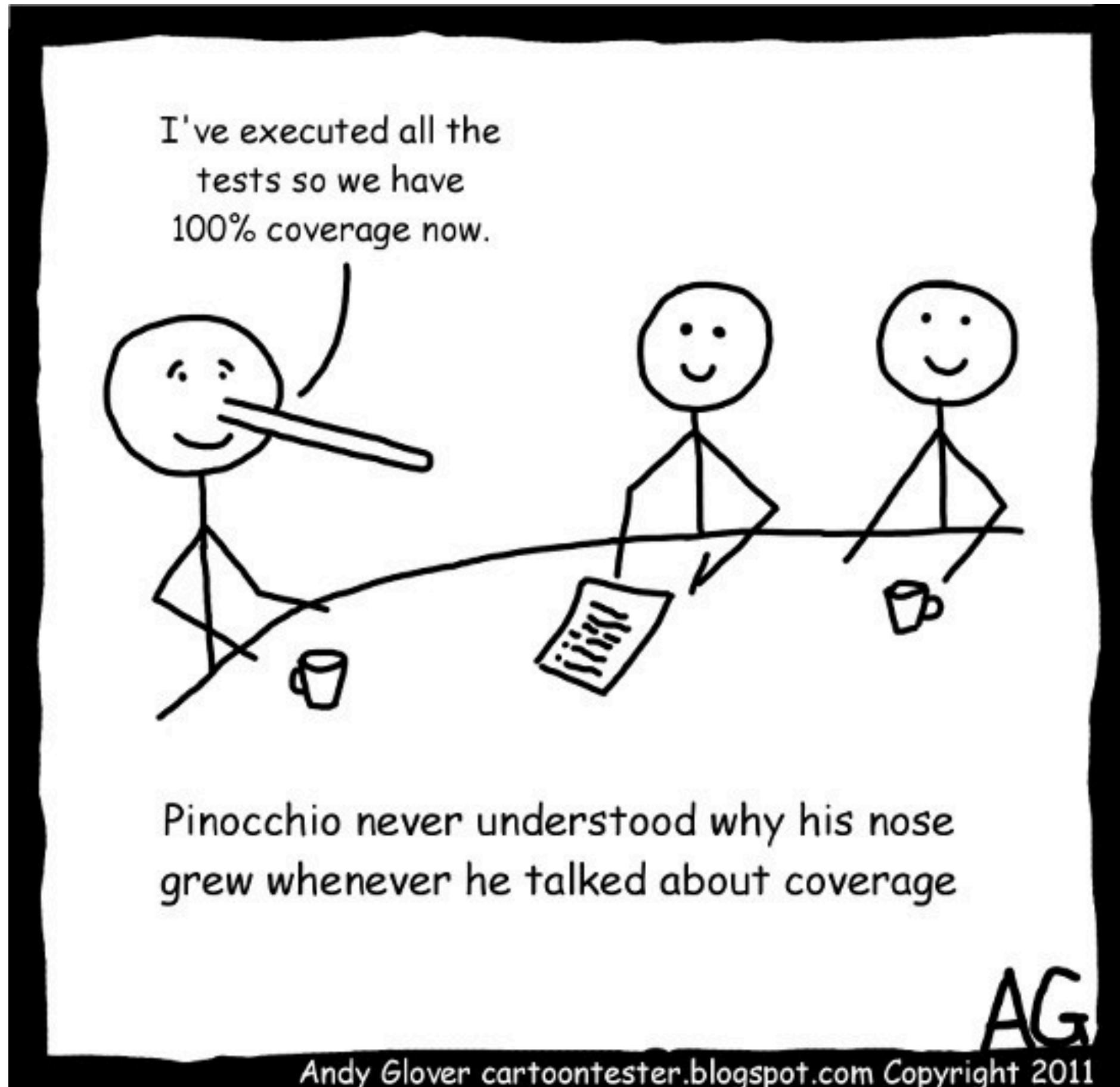




Checkstyle



Code Coverage Cult



```
public void indoctrinate(User user, Cult cult) {  
    cult.add(user.getName());  
}
```

Licensing



Security

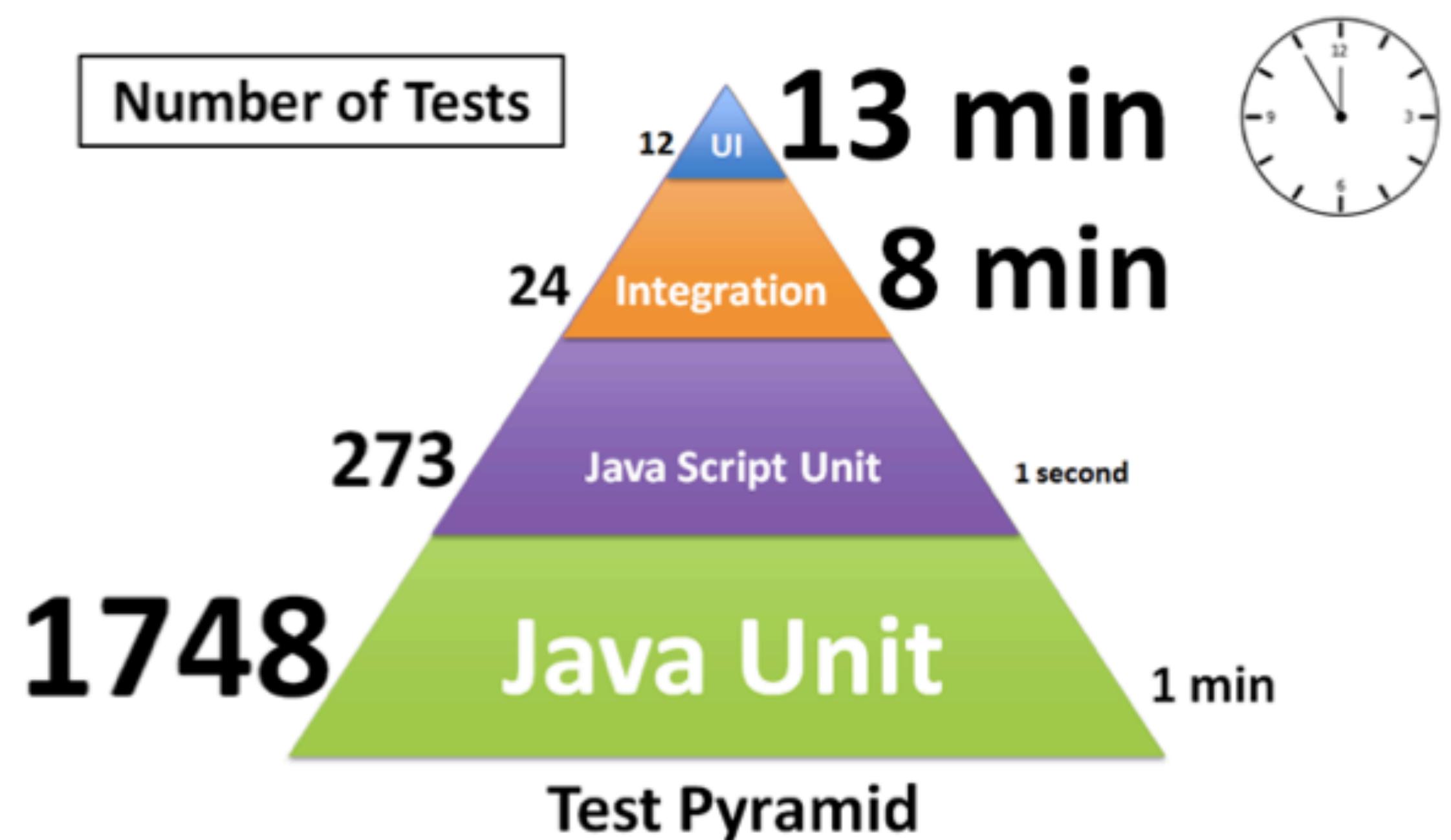
Test security at every level (unit, integration, etc)

Automate application scanning

Be involved with up stream dependencies



What Types of Testing Should I Use?

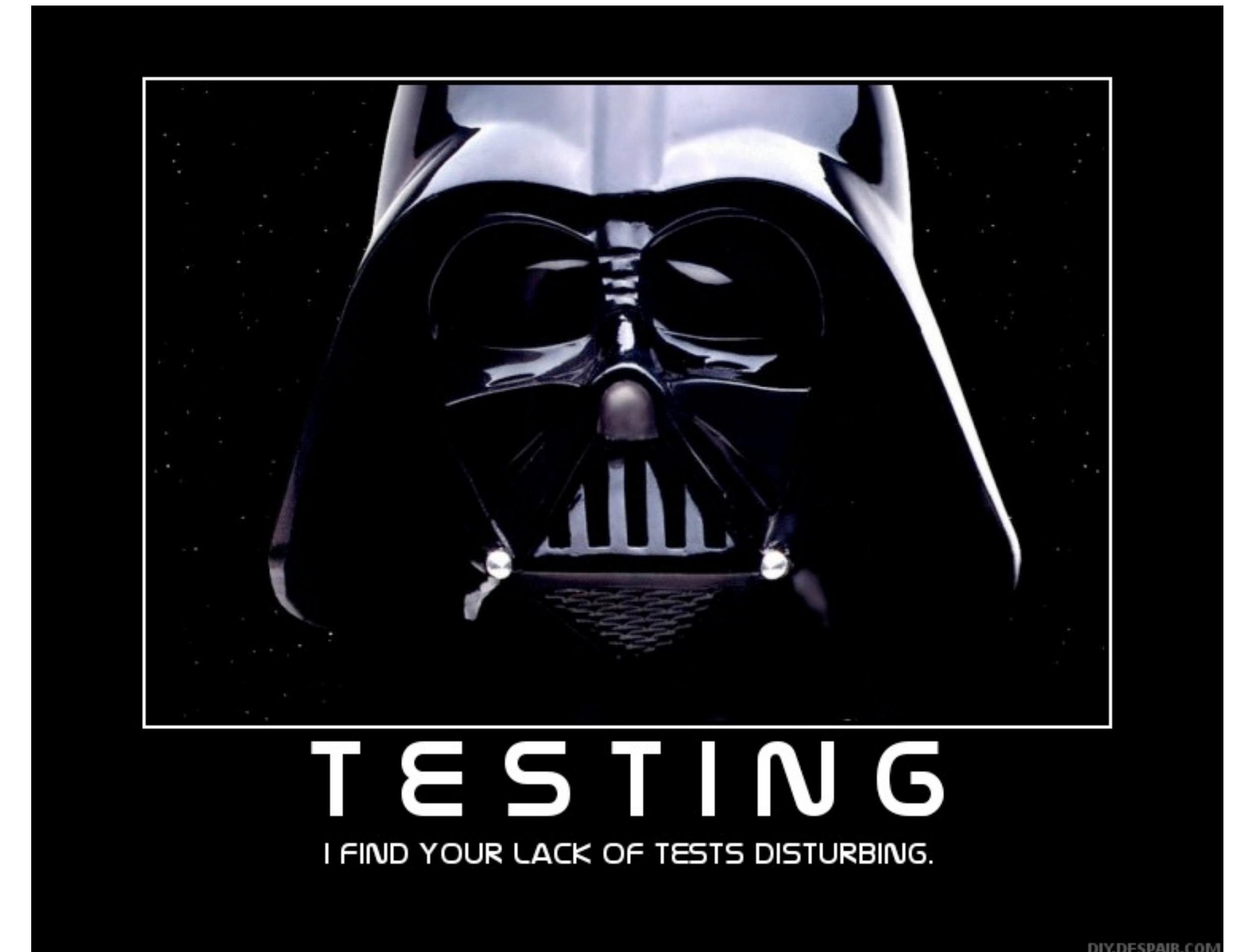


www.fabiopereira.me

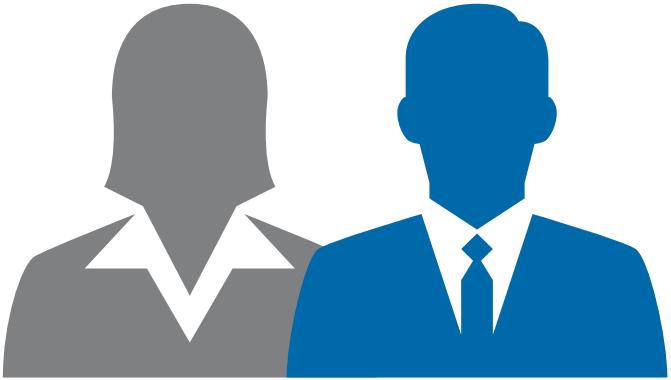
ThoughtWorks®

Dealing with Legacy Code

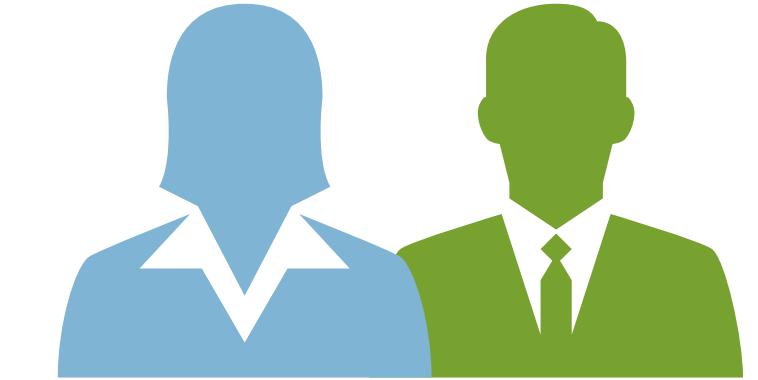
Legacy Code -
code without tests



Okta Enables Companies to Do Both IT & API



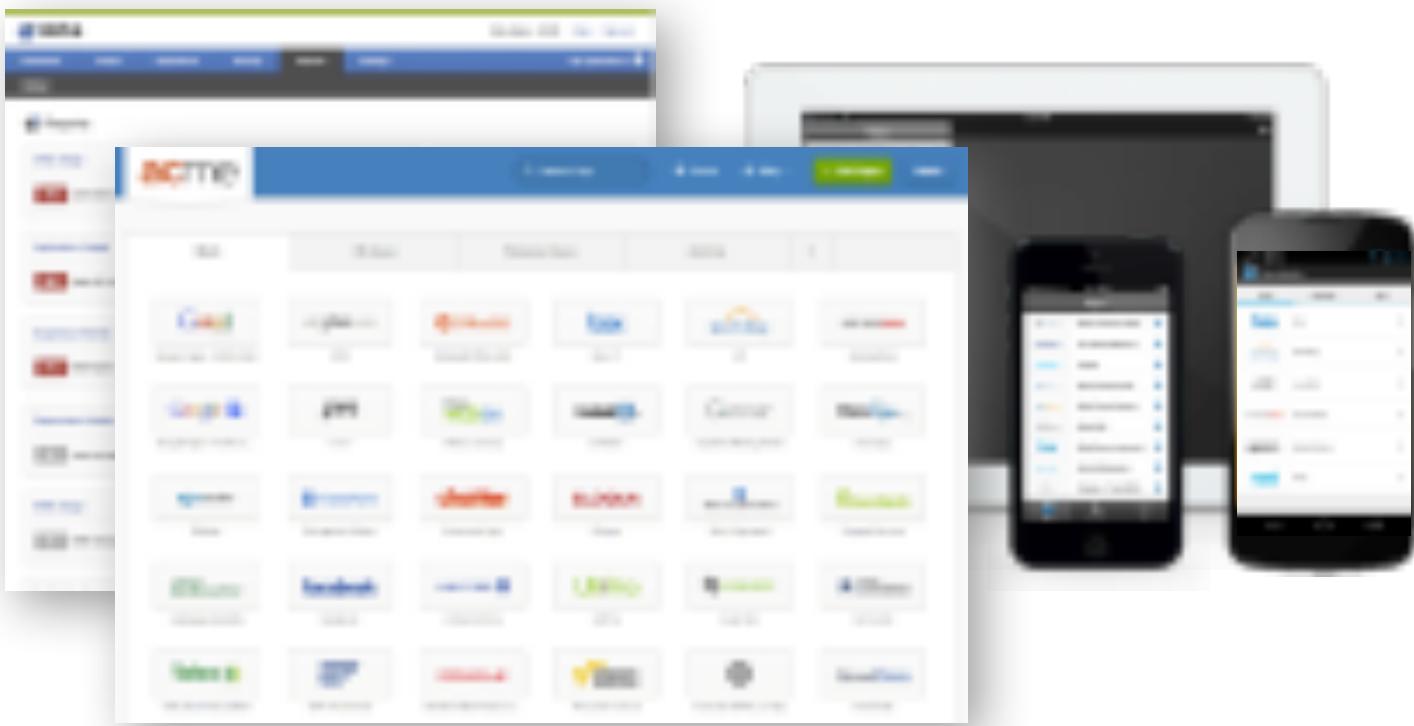
Employees,
Contractors



Partners,
Customers



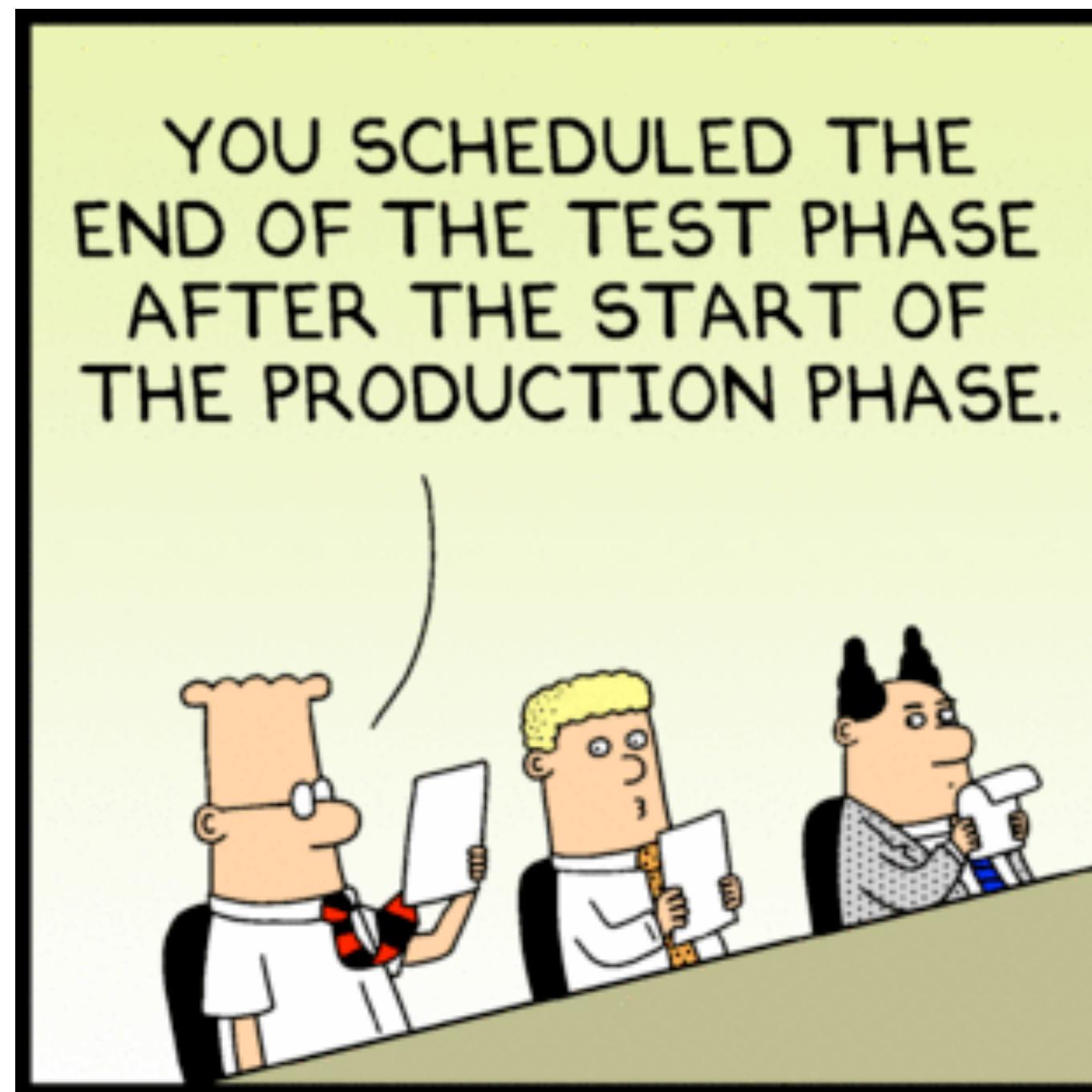
Identity Service:
Identity Management
Strong Authentication



Identity API Products:
Identity API for Any App
Developer Tools
and Community



Testing is Confidence



Questions?

