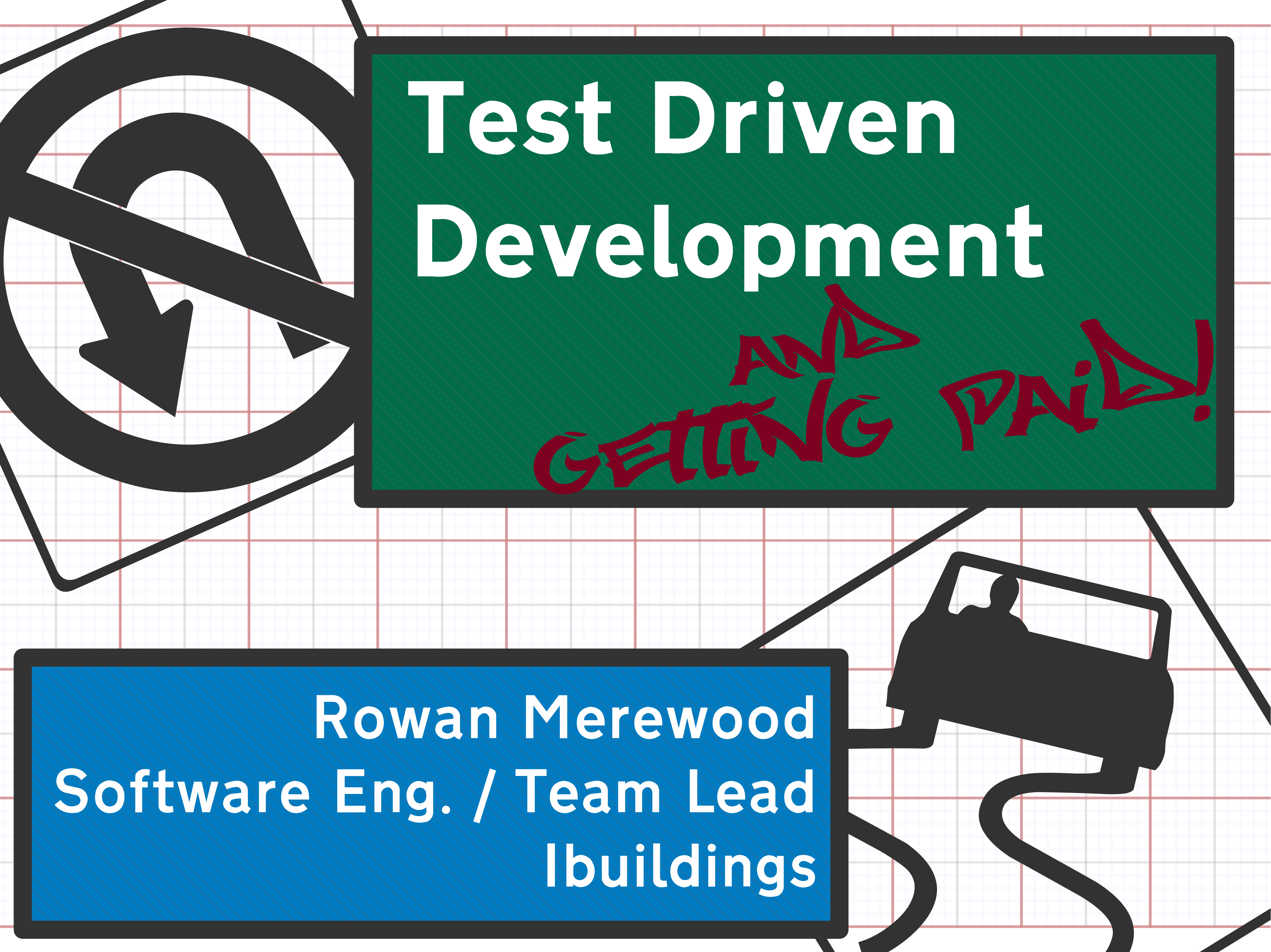
Test Driven Development

AND GETTING PAID!

Rowan Merewood

Software Eng. / Team Lead

Ibuildings



WHO AM I?

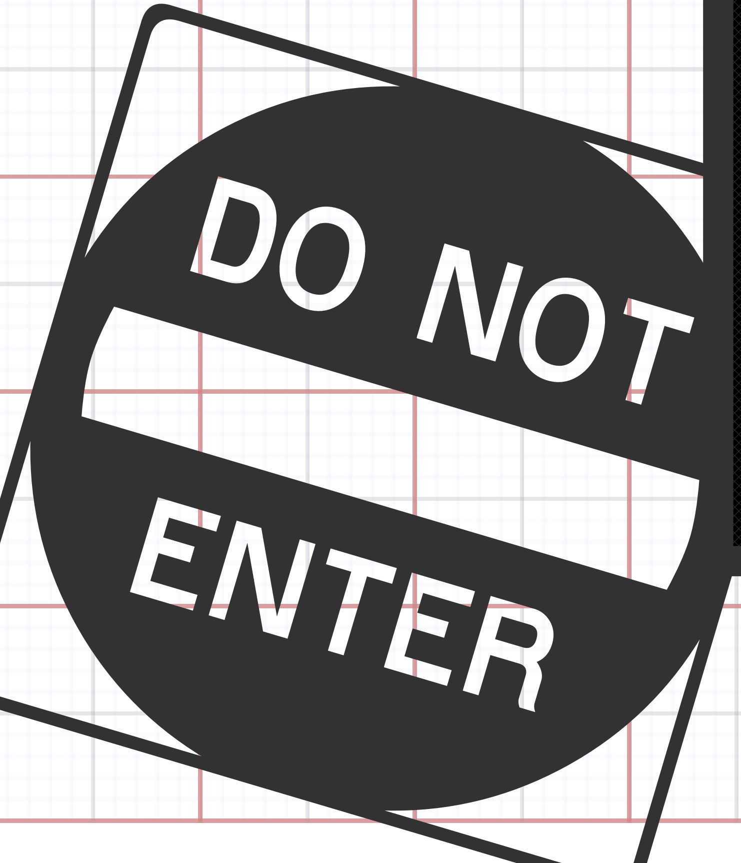
Software Engineer &
Technical Team Lead
at Ibuildings UK

*I want to write good code
and earn a living*

@rowan_m

DETOUR

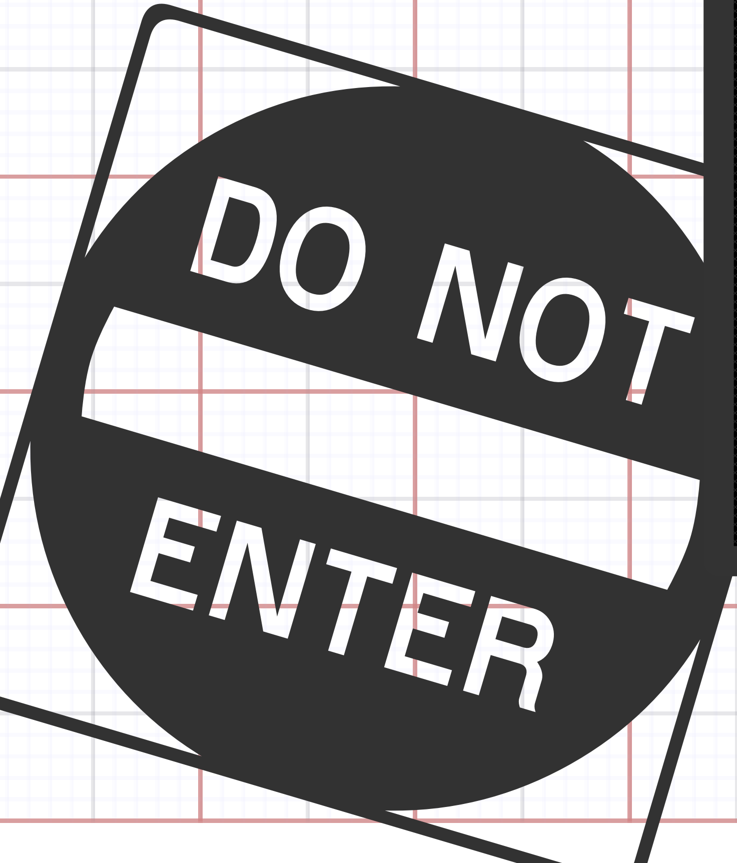
WHO AM I Not?



I AM NOT A CONSULTANT

WELL MAYBE A LITTLE

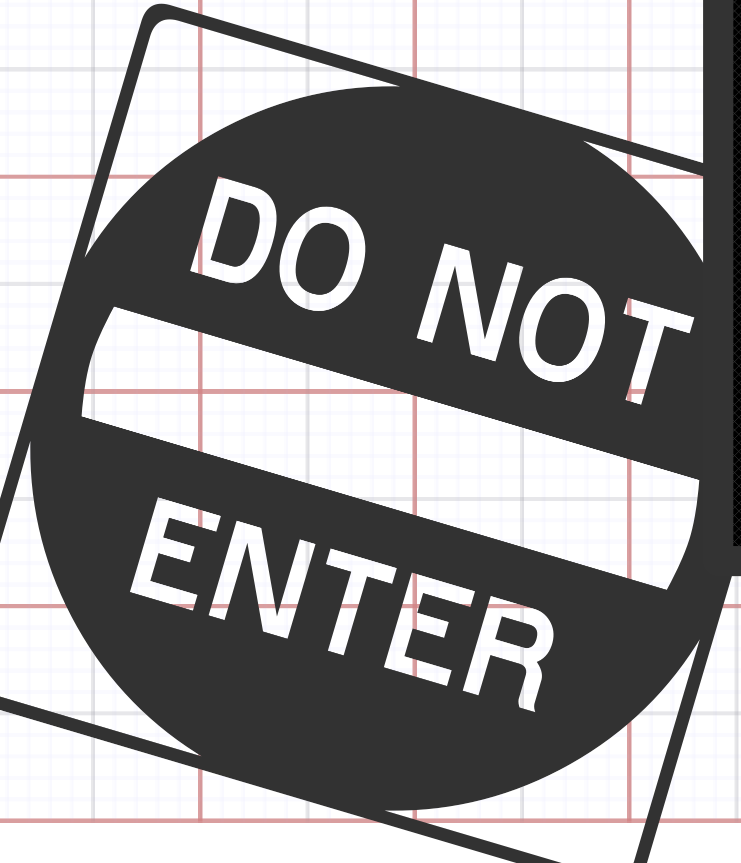
WHO AM I Not?



I AM NOT SELLING A BOOK

WHO AM I Not?

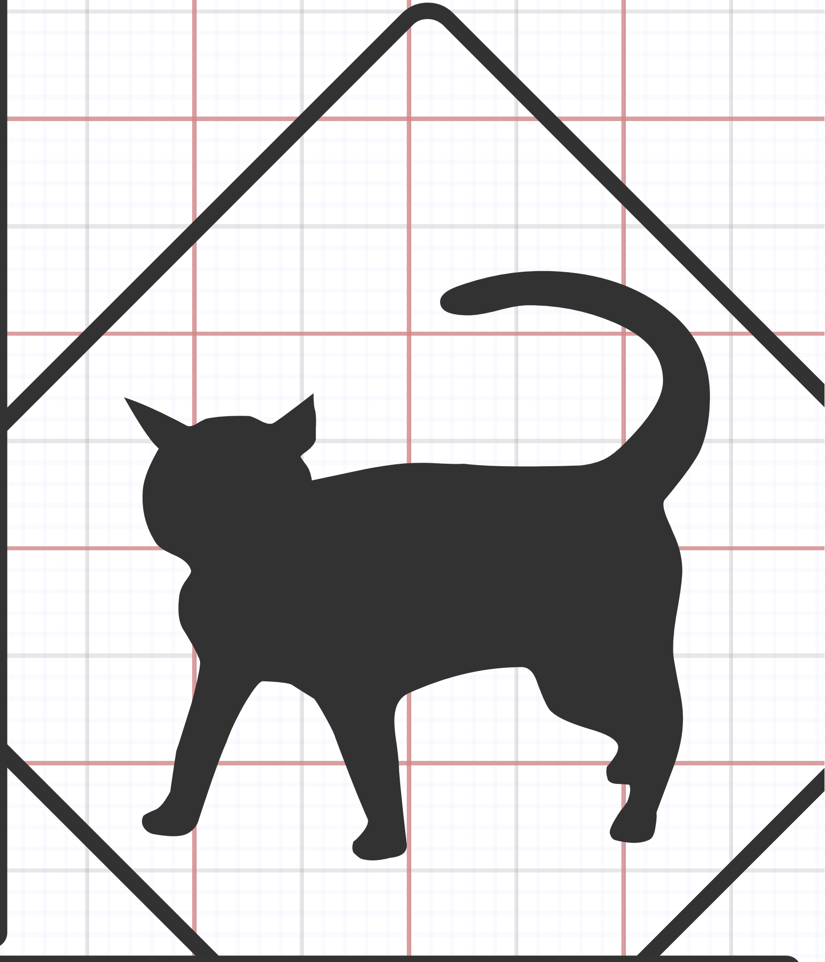
I AM NOT
A SLAVE TO
ONE METHOD



THE GOOD

Clean code, smart devs
Latest technology
Building your career

Elitist / Intimidating ?

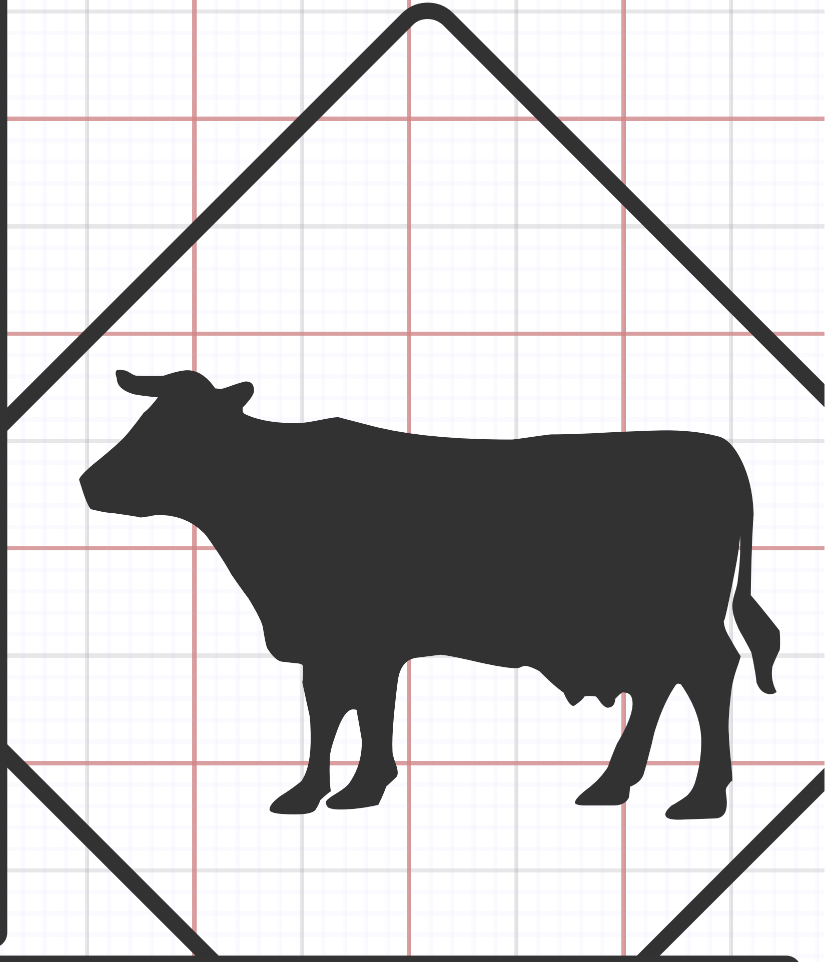


DIFFERENT SITUATIONS

THE BAD

Disgusting code
Devs don't care
Career dead-end

Changes break the app.
Always bug-fixing



DIFFERENT SITUATIONS

THE UGLY

Good tests are hard
Writing tests takes time
Time is money

You're not an expert
(yet...)

BUMP

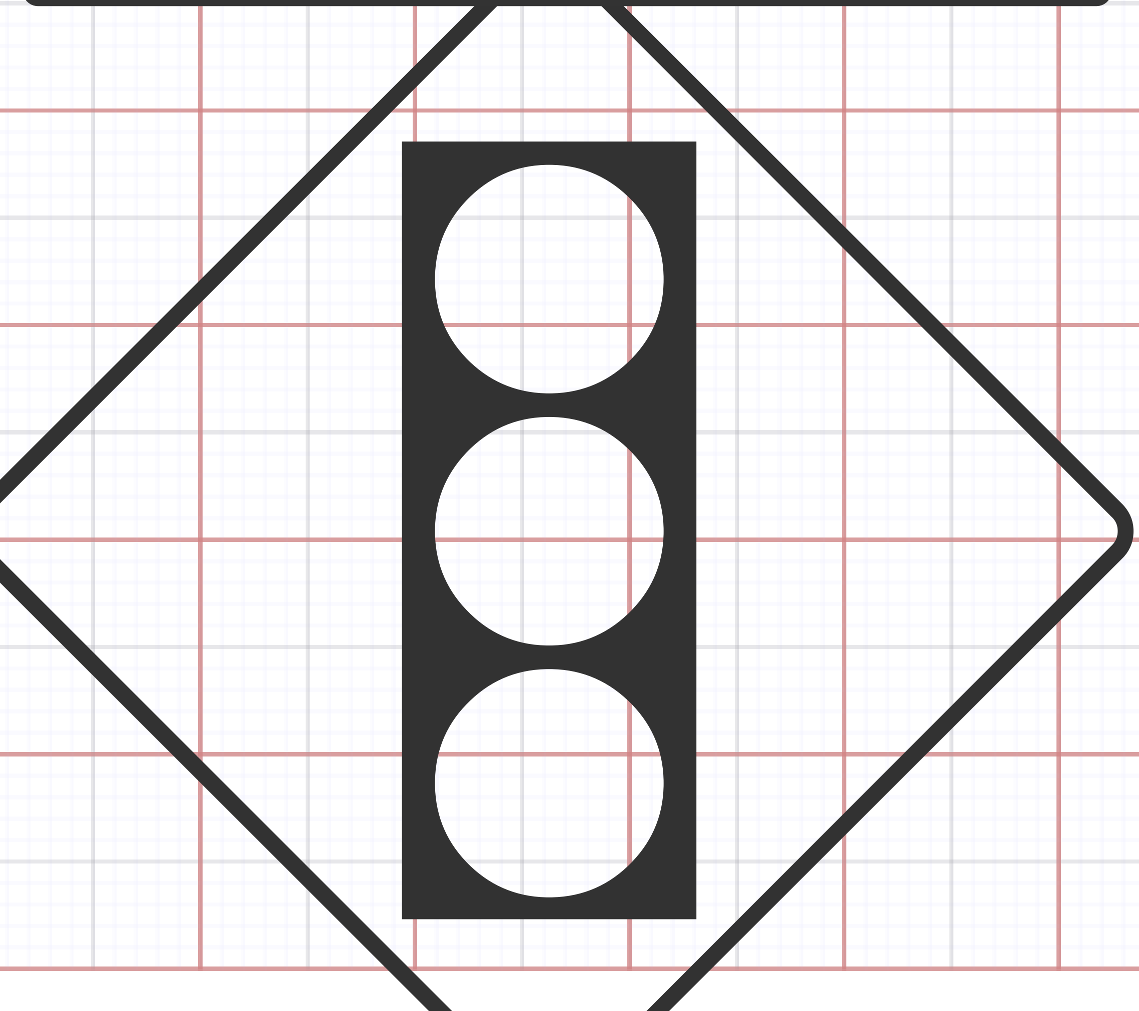
DIFFERENT SITUATIONS

WHAT IS TDD ?

1. Decide what you want to do
2. Write a test to show it working
3. Run the test and watch it fail
4. Write just enough code to pass the test
5. Re-run the test (and test suite)
6. Refactor (refine/improve)
7. Re-run tests
8. Repeat

WHAT IS TDD?

SIMPLIFY



RED

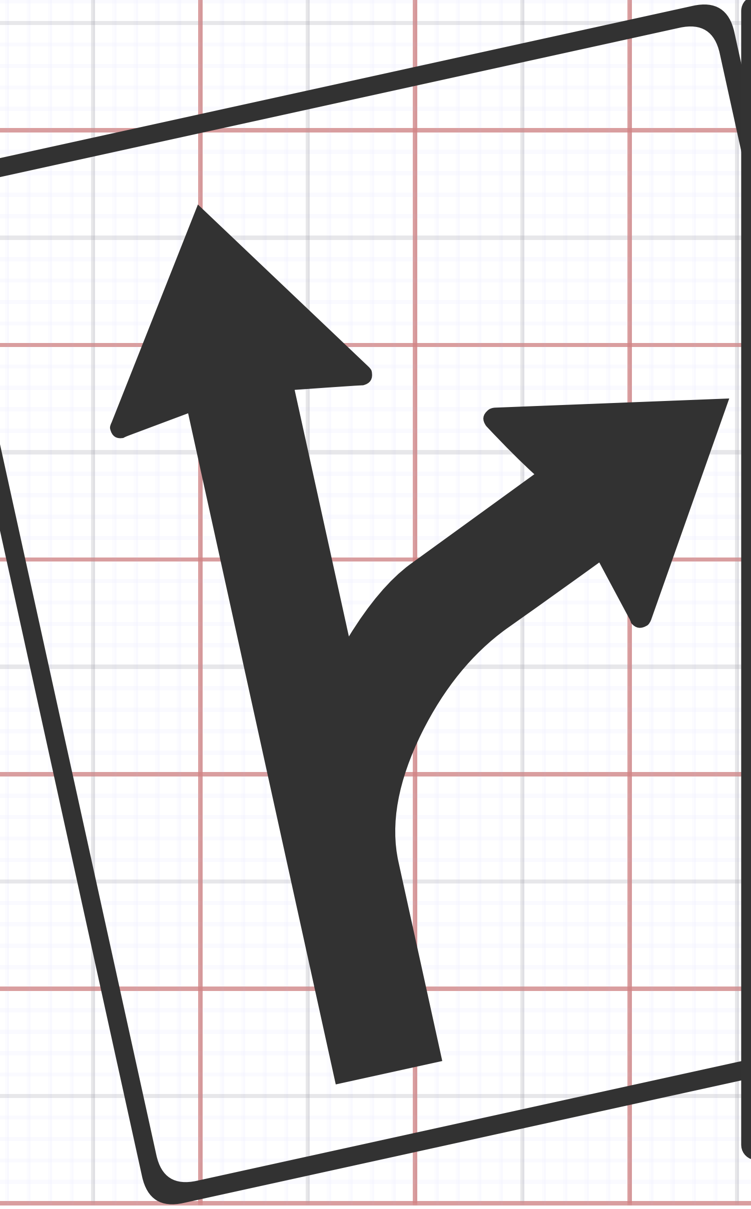
↓

GREEN

↓

REFACTOR

WHY IS THIS HARD?

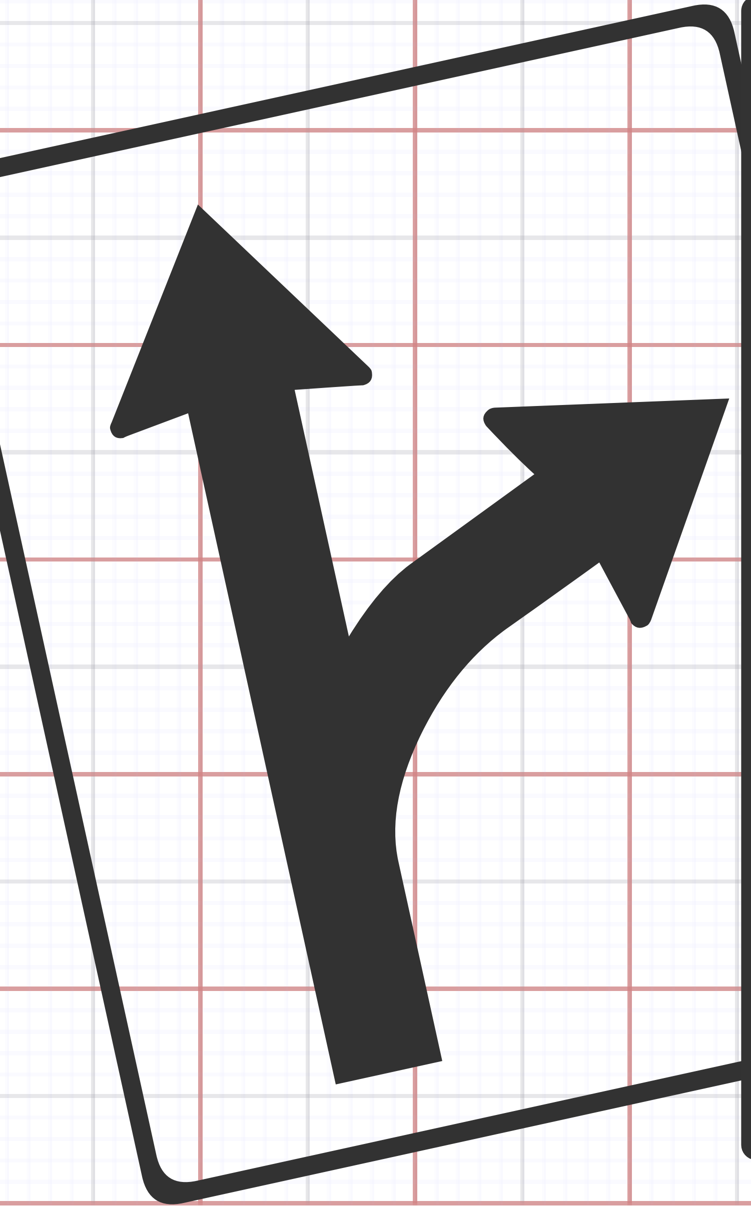


Do you know what you want

before

you code it?

WHY IS THIS HARD?

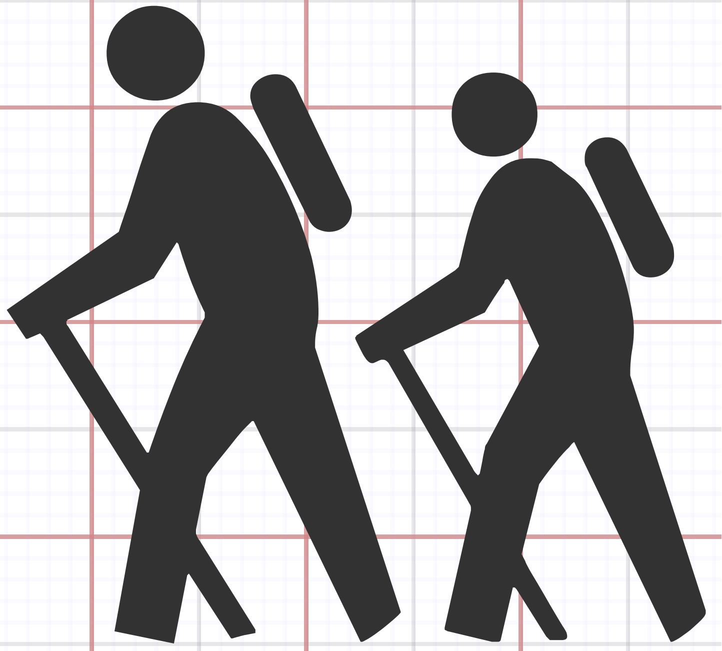


Does your client know what they want?

EVER?

Train yourself to think like a scientist

1. Hypothesis
2. Repeatable Experiment
3. Conclusions



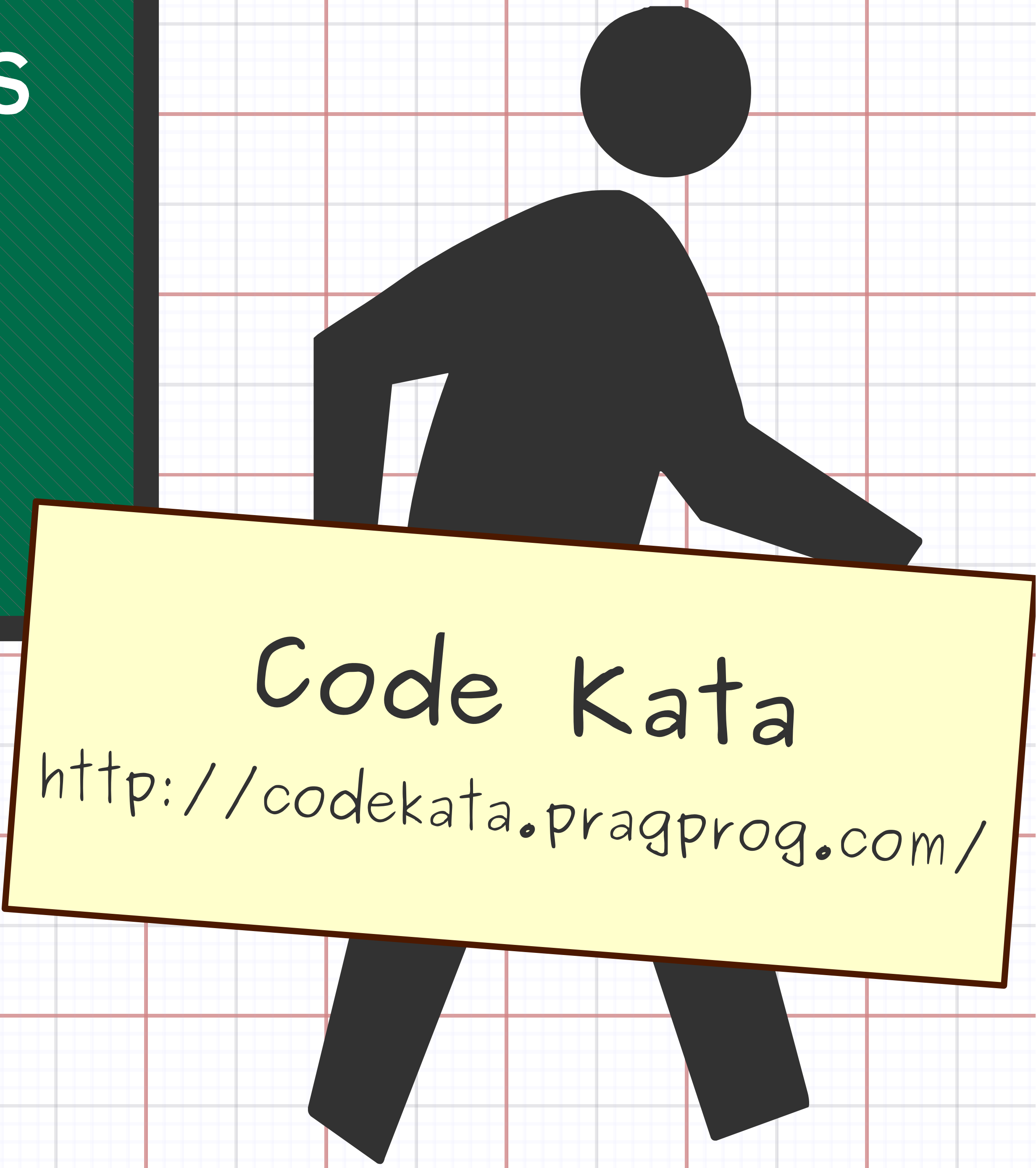
Train yourself to think like a ~~scientist~~ NINJA

Kata

(型 or 形, literally: "form")
A set of movements
you repeat again and again
until can do it perfectly.

DAVE THOMAS

co-author of
The Pragmatic
Programmer



ROY OSHEROVE - TDD Kata

http://osherove.com/tdd-kata-1/

Create a simple String calculator
with a method int Add(string numbers)

The method can take 0, 1 or 2 numbers,
and will return their sum
(for an empty string it will return 0)
for example "" or "1" or "1,2"

ROY OSHEROVE - TDD Kata

DEMO

Now you're an expert...

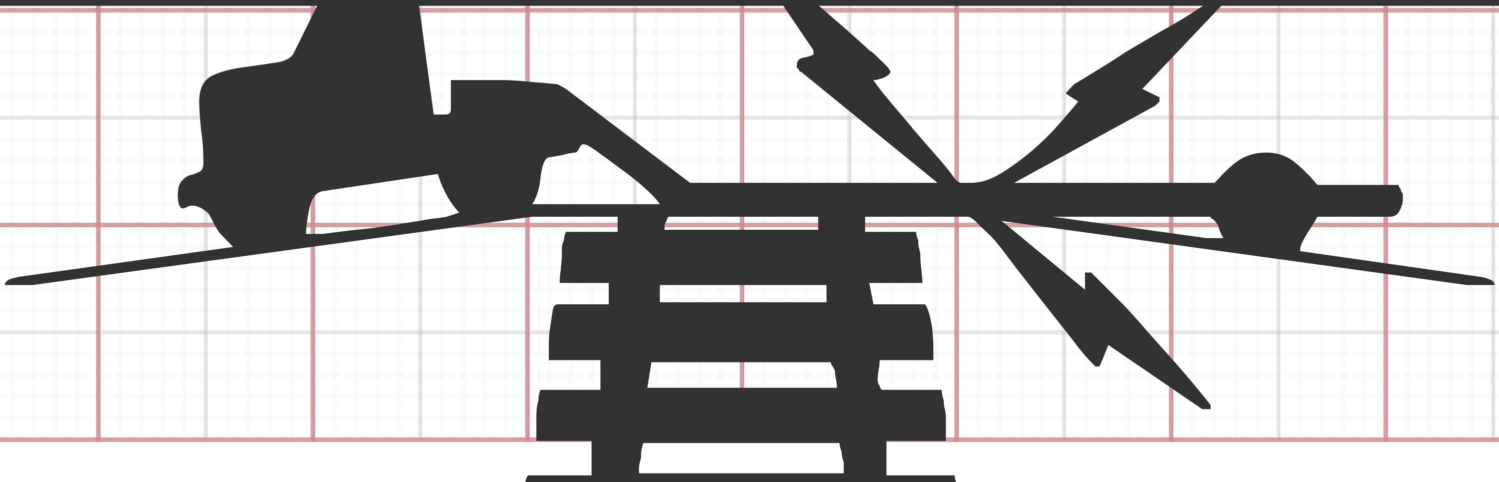
WARNING

Do not assume you can
just start to do this
in your project

DON'T BE A HERO

Introduce tests all at once...

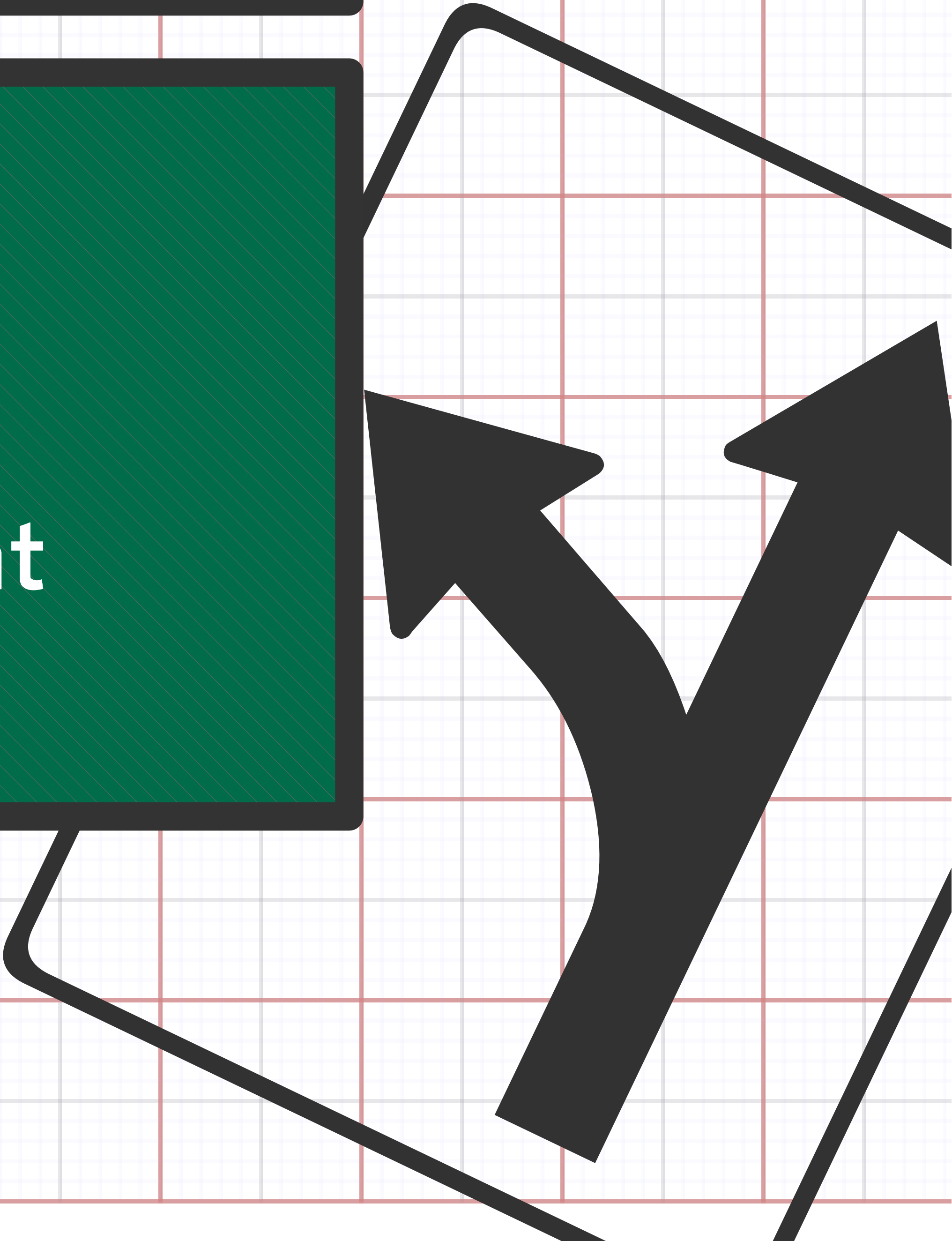
- You will miss your deadline
- Your tests will not be maintained
- Your team will hate you



DIFFERENT APPROACHES

Force tests
on your client

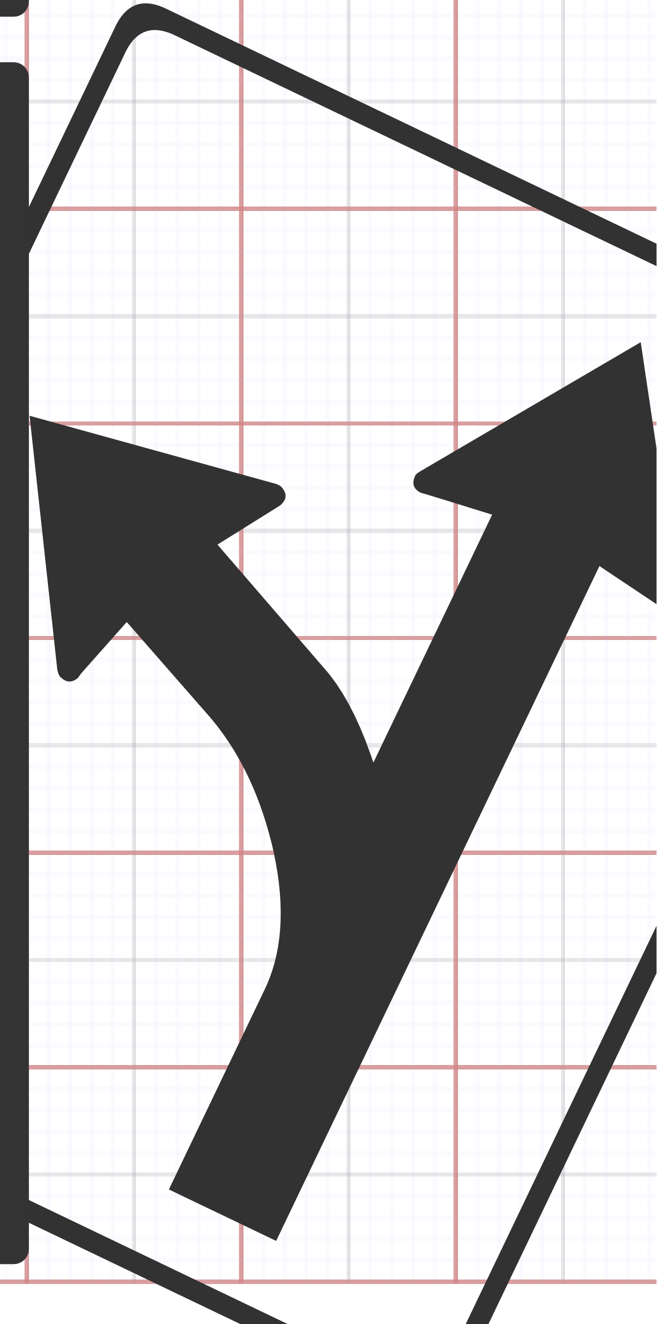
Make your client
want the tests



FORCING TESTS

Add a fixed percentage to your estimates.

Do not compromise your principles.

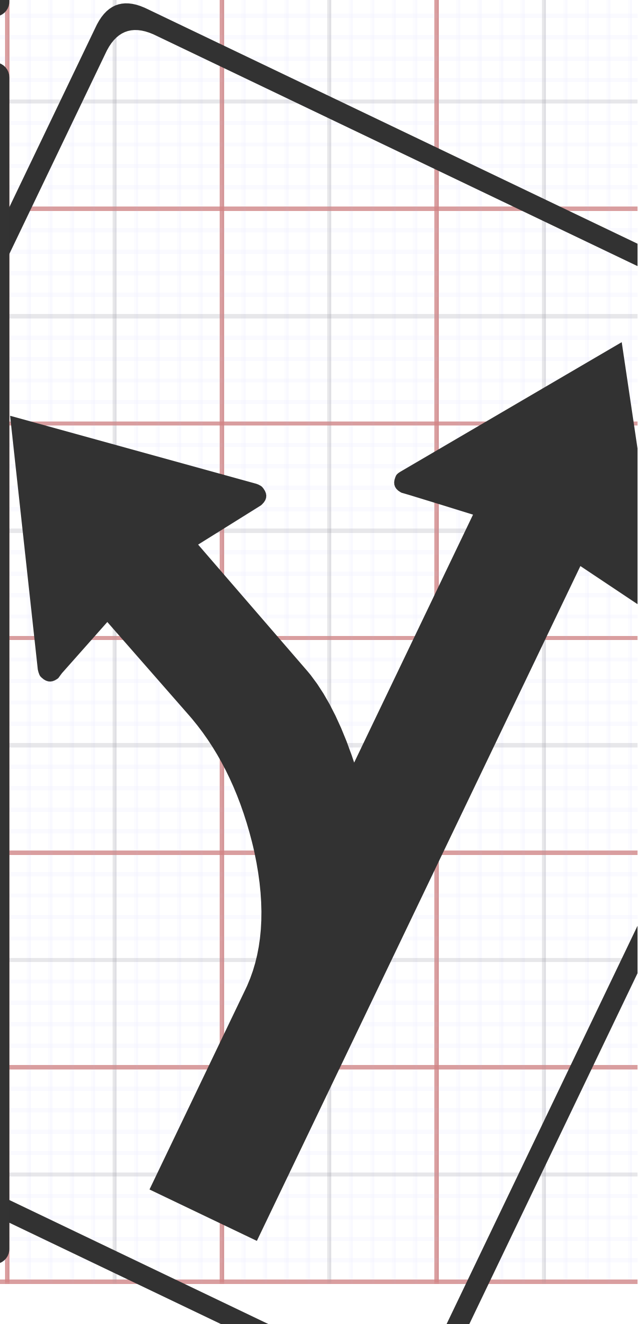


SELLING TESTS

Use tests to define 'done'.

Involve the client
in creating tests.

Make the tests
a deliverable.



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Fitnesse Framework
http://fitnesse.org/

SELLING TESTS

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Make the tests a deliverable.

Fitnesse Framework
http://fitnesse.org/

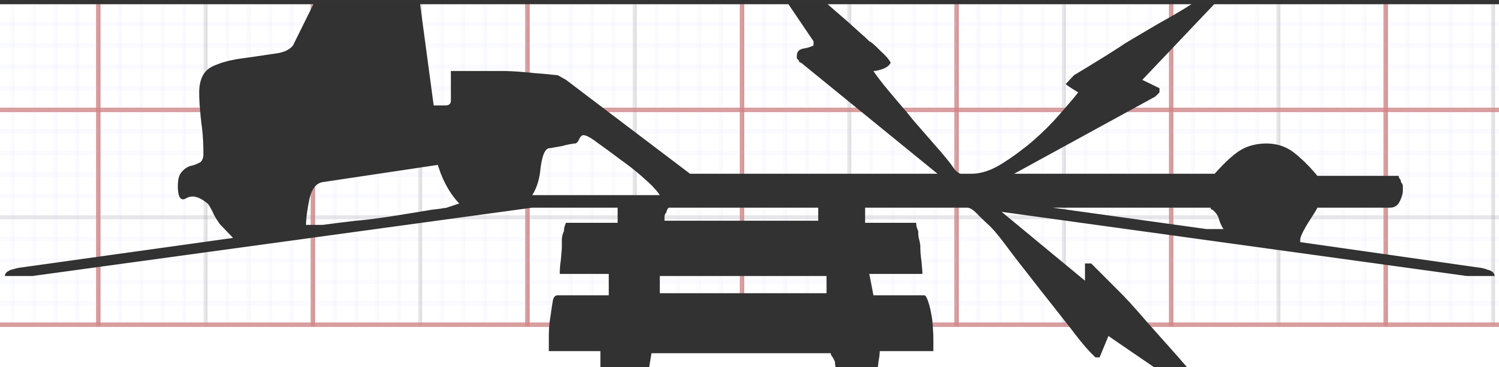
Selenium
http://seleniumhq.org/

DON’T BELIEVE THE HYPE

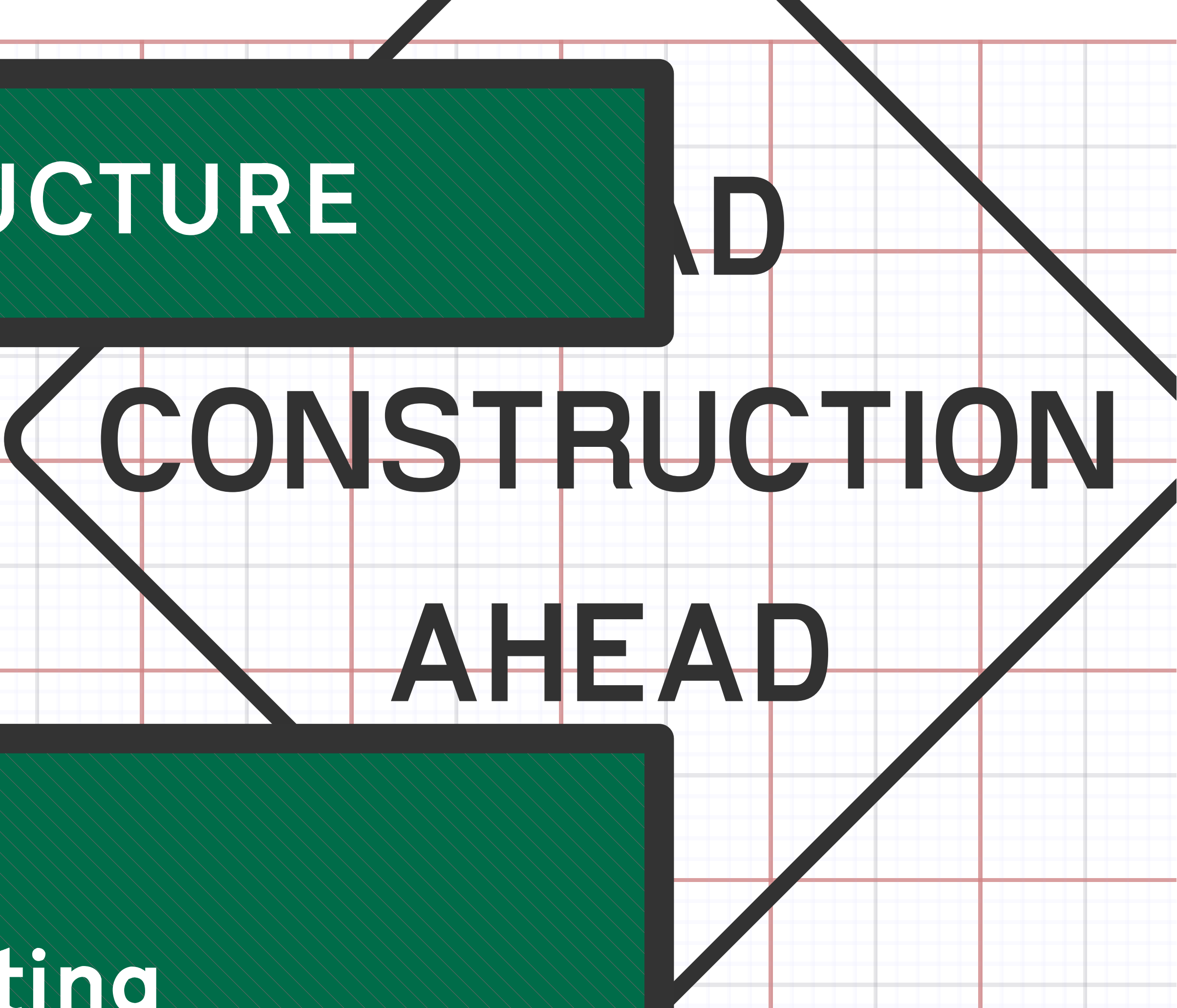
Make sure you don’t over-promise.

Make sure you have the infrastructure and skills

NO SILVER BULLETS

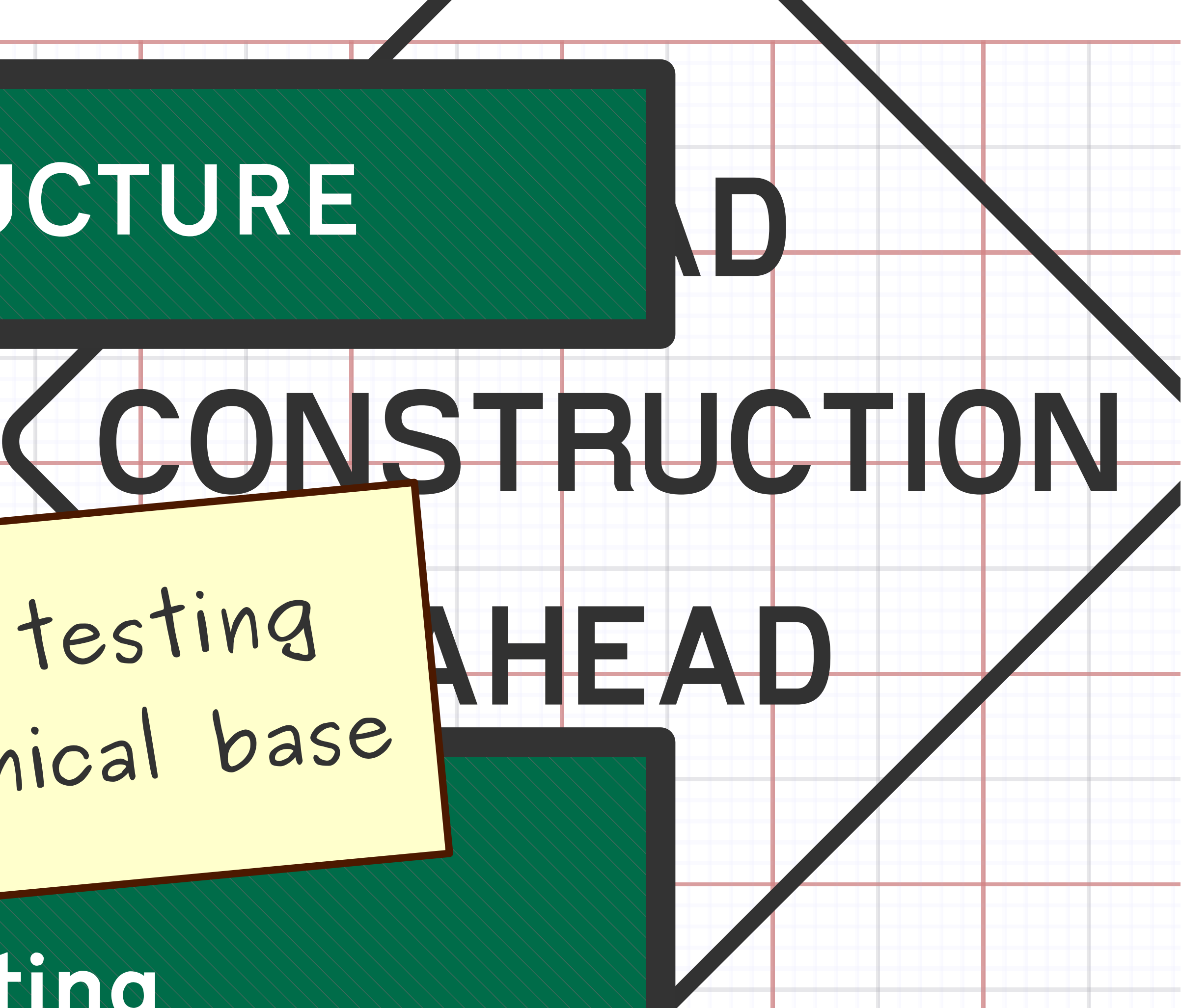


INFRASTRUCTURE



1. Unit Testing
2. Acceptance Testing
3. Automated Deployment
4. Continuous Integration
5. Issue Tracking

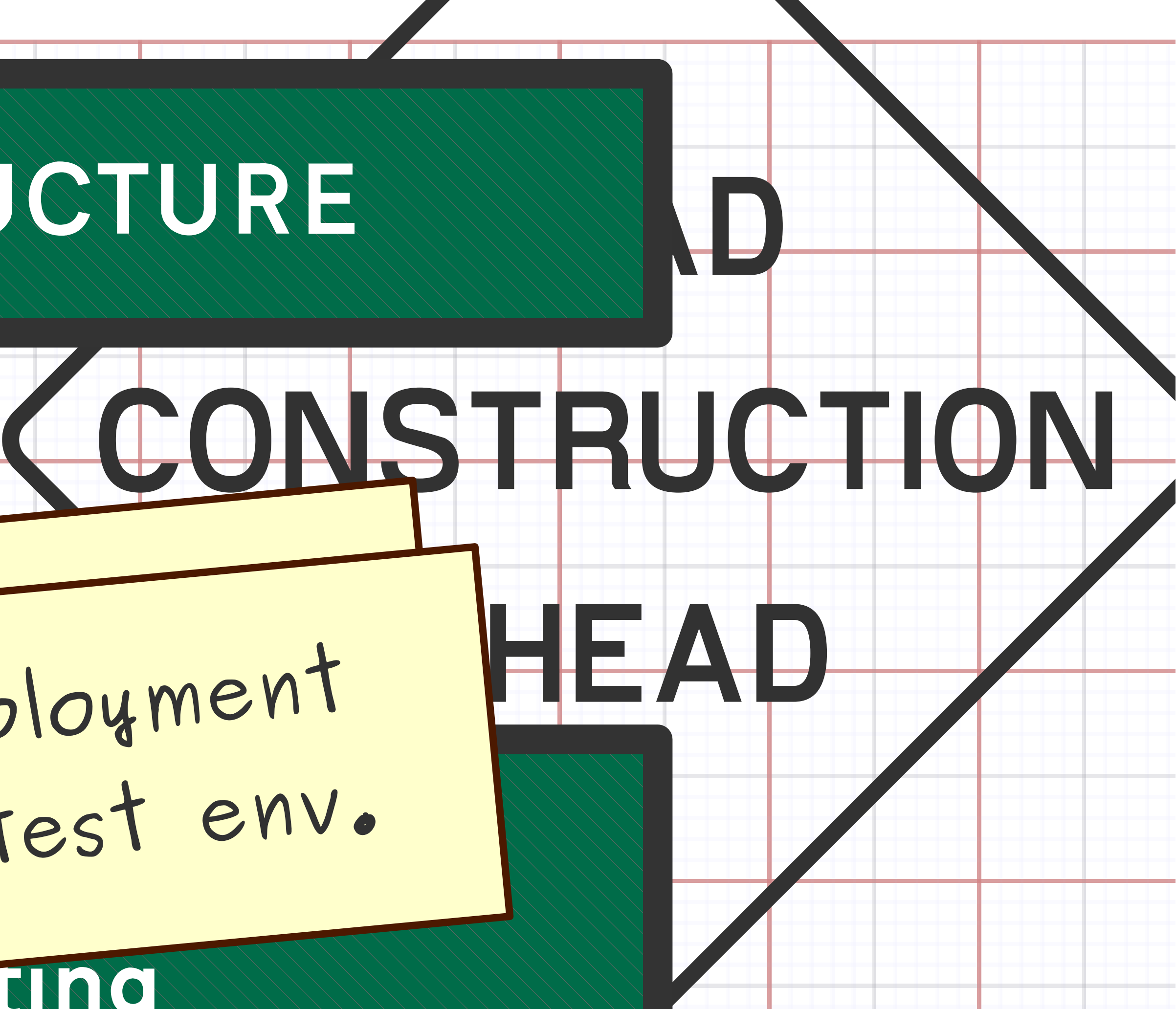
INFRASTRUCTURE



Unit/Acceptance testing provides the technical base

2. Acceptance Testing
3. Automated Deployment
4. Continuous Integration
5. Issue Tracking

INFRASTRUCTURE



Automated deployment allows a quick test env.

2. ptance Testing
3. Automated Deployment
4. Continuous Integration
5. Issue Tracking

INFRASTRUCTURE

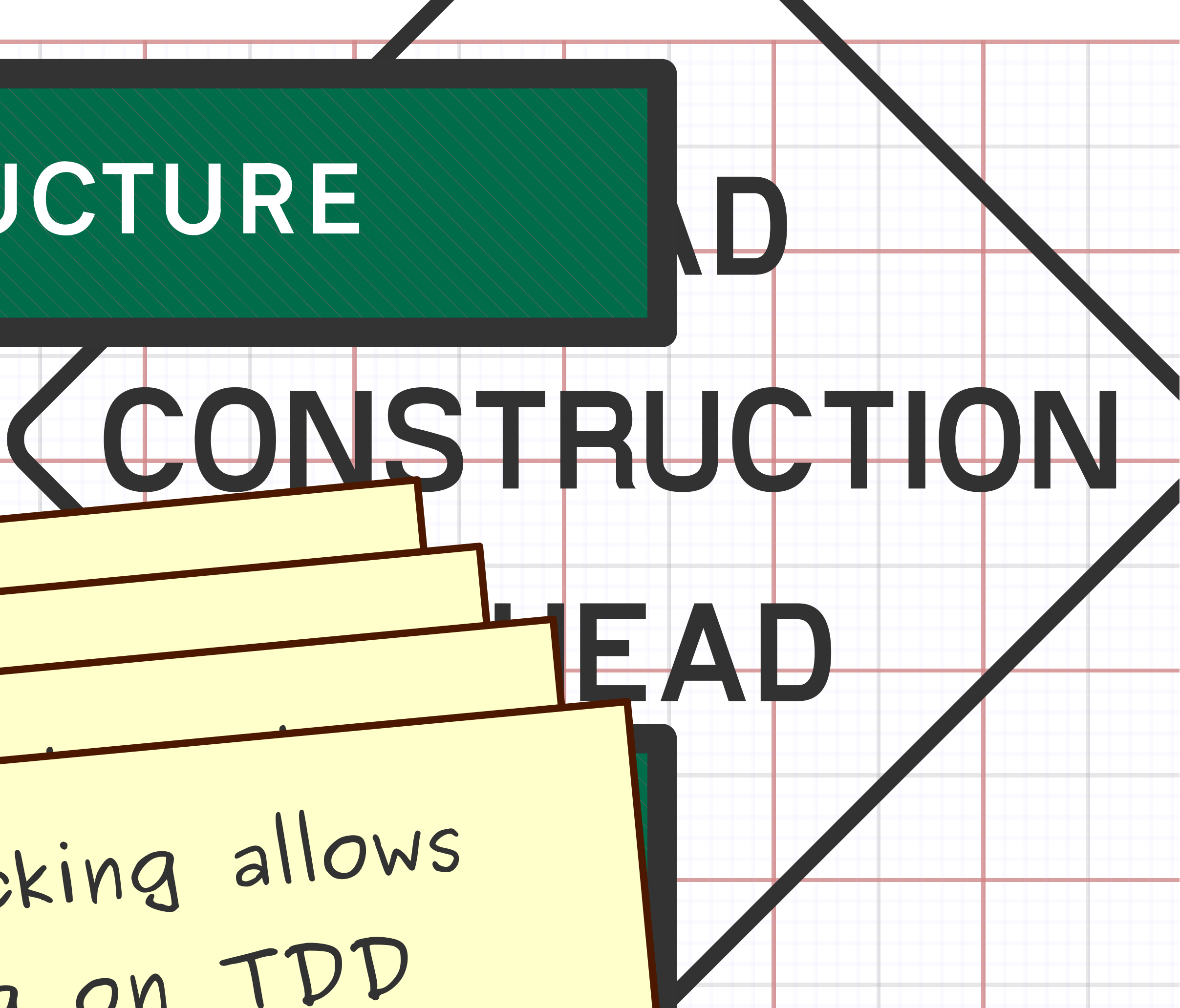
AD
CONSTRUCTION
EAD

Continuous Integration makes progress visible

2

3. Automated Deployment
4. Continuous Integration
5. Issue Tracking

INFRASTRUCTURE



Issue Tracking allows reporting on TDD

2

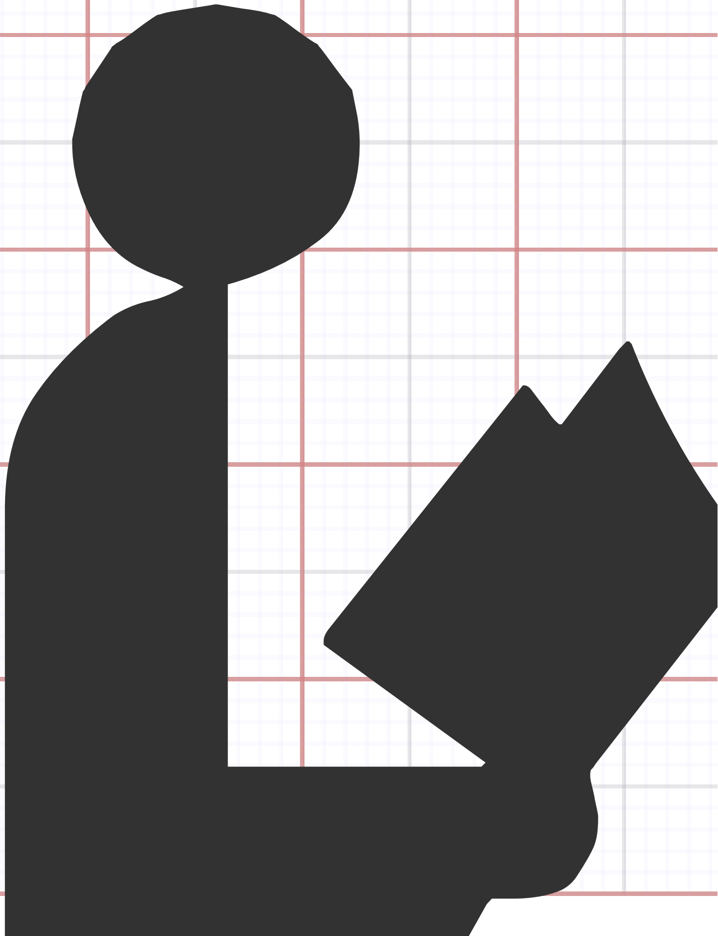
3. Au ployment

4. Continuous Integration

5. Issue Tracking

REPORTING

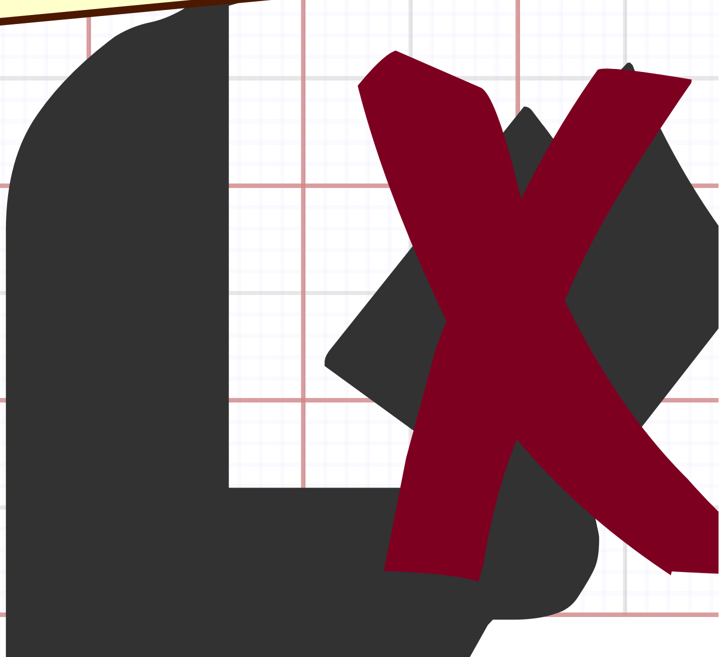
1. Code Coverage
2. Branch Coverage
3. Bug Origin:
   - tested code
   - untested code
4. Test/Dev Time:
   - per feature
   - per story



REPORTING

1. Code Coverage
2. Branch Coverage
3. Bug Origin:
   - tested code
   - untested code
4. Test/Dev Time:
   - per feature
   - per story

Only track a metric
if it is useful
and encourages the
right behaviour!

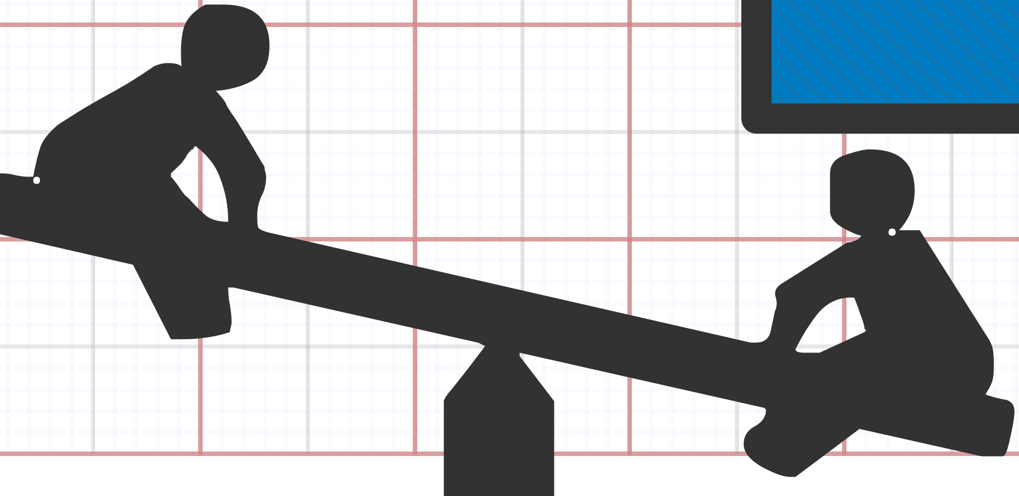


SKILLS & THE TEAM

Owners not heroes

Prepared to fail

Honest & Disciplined



TDD DOES NOT CREATE GOOD CODE

WAIT...

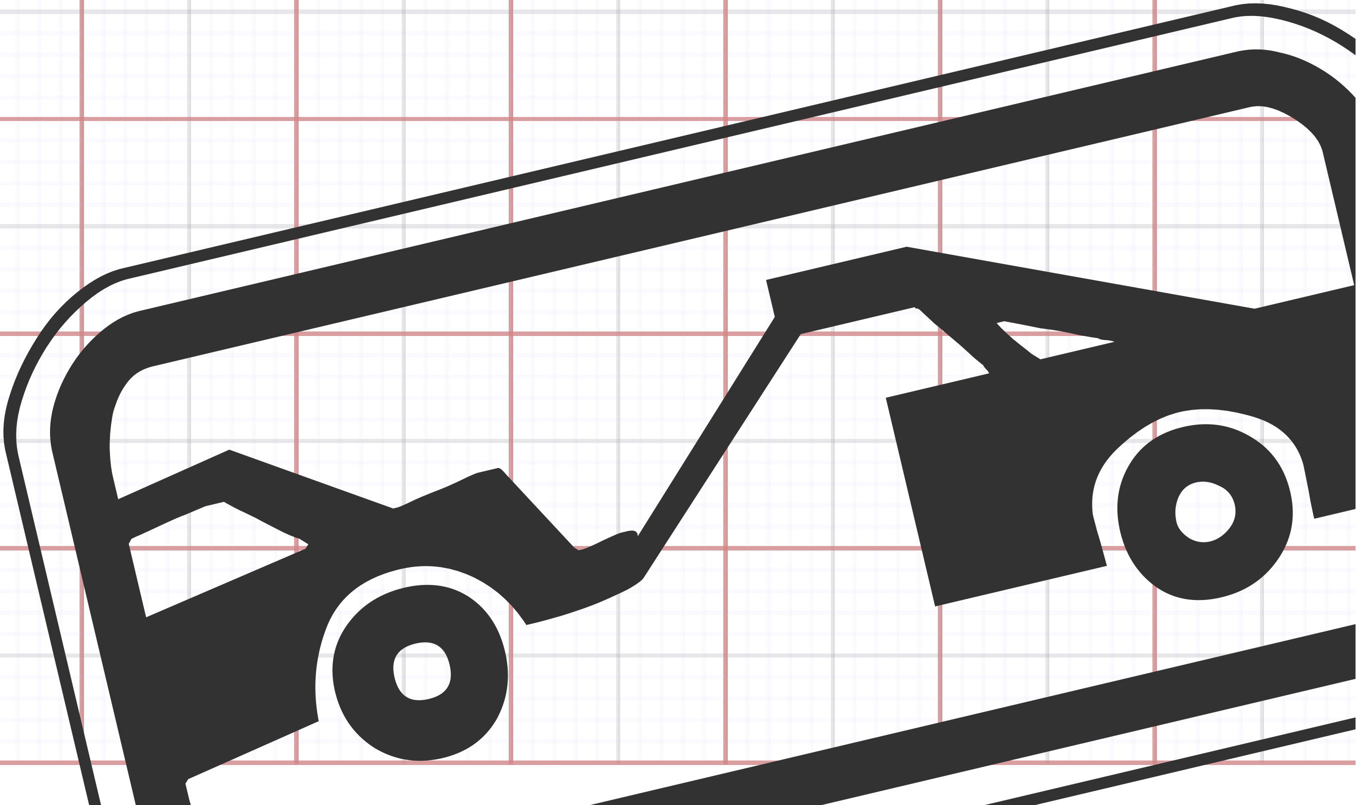
WHAT?

TDD DOES NOT CREATE GOOD CODE

GOOD PLAN
GOOD DEV
GOOD CODE

BAD PLAN
BAD DEV
BAD CODE

DISASTER RECOVERY



DISASTER RECOVERY

Untestable code?

Isolate and contain
-or-
Create a testable API

DISASTER RECOVERY

Running late?

Drop features
-or-
Test the happy path
-or-
Test core only

DISASTER RECOVERY

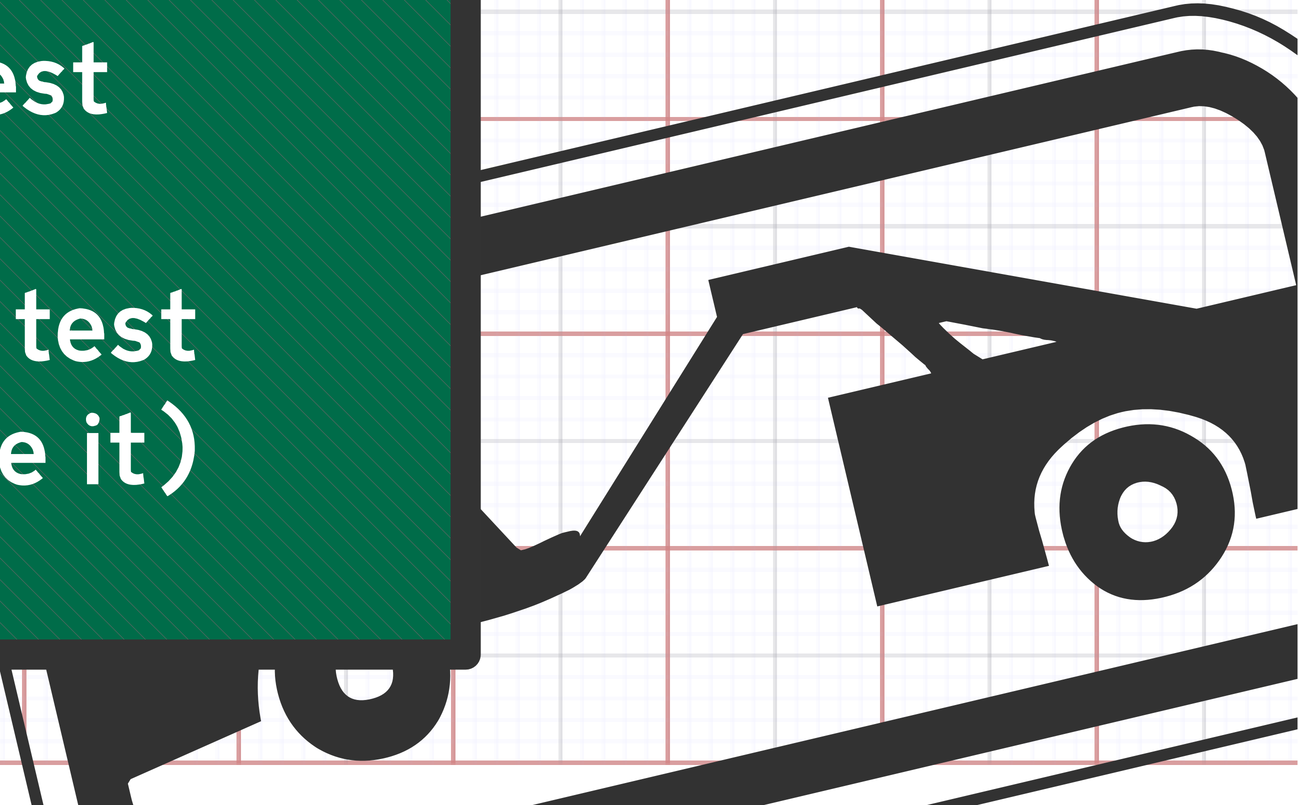
Broken build?

Fix the test

-or-

Delete the test

(yes, delete it)



DISASTER RECOVERY

Team doesn't care

Use incentives/games

-or-

Find another job

YOU'RE WORTH IT!

END CONSTRUCTION

QUESTIONS?

@rowan_m

http://joind.in/3191

THANK YOU