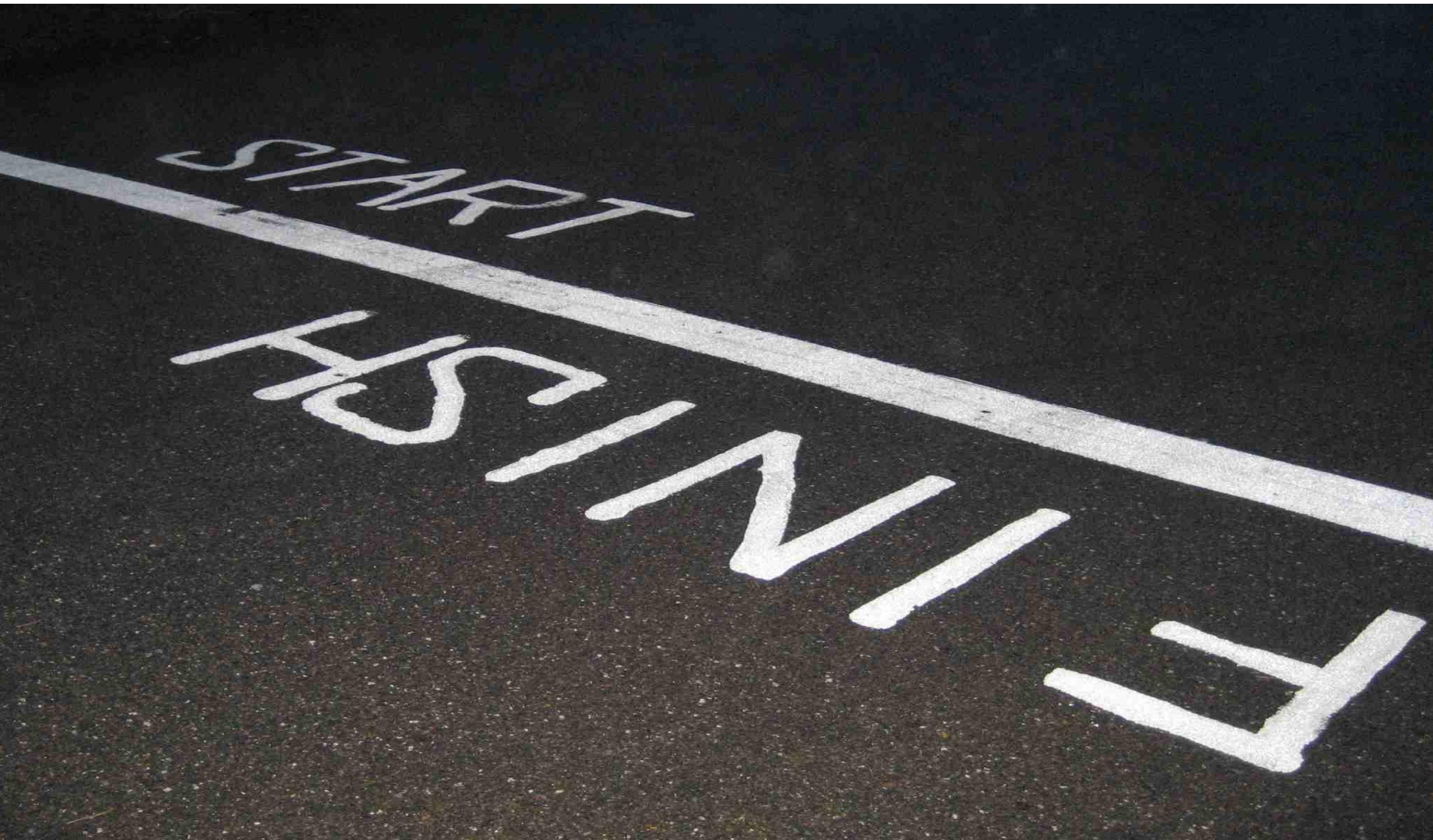# Behaviour Driven Development with Cucumber
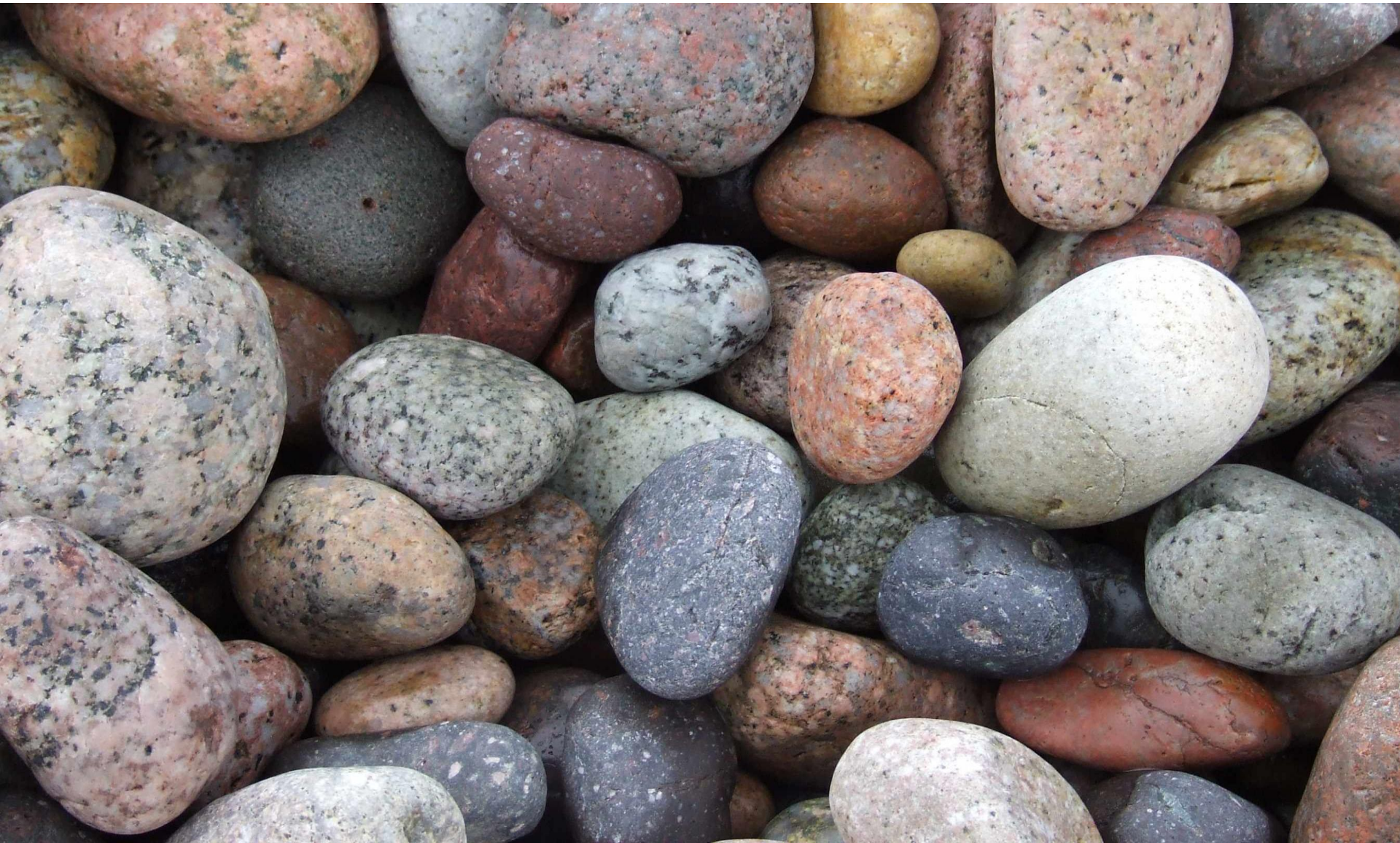
Asheesh Mehdiratta

@amehdiratta

How is your Journey?

Needs ?

Wants ?

Ambiguity?
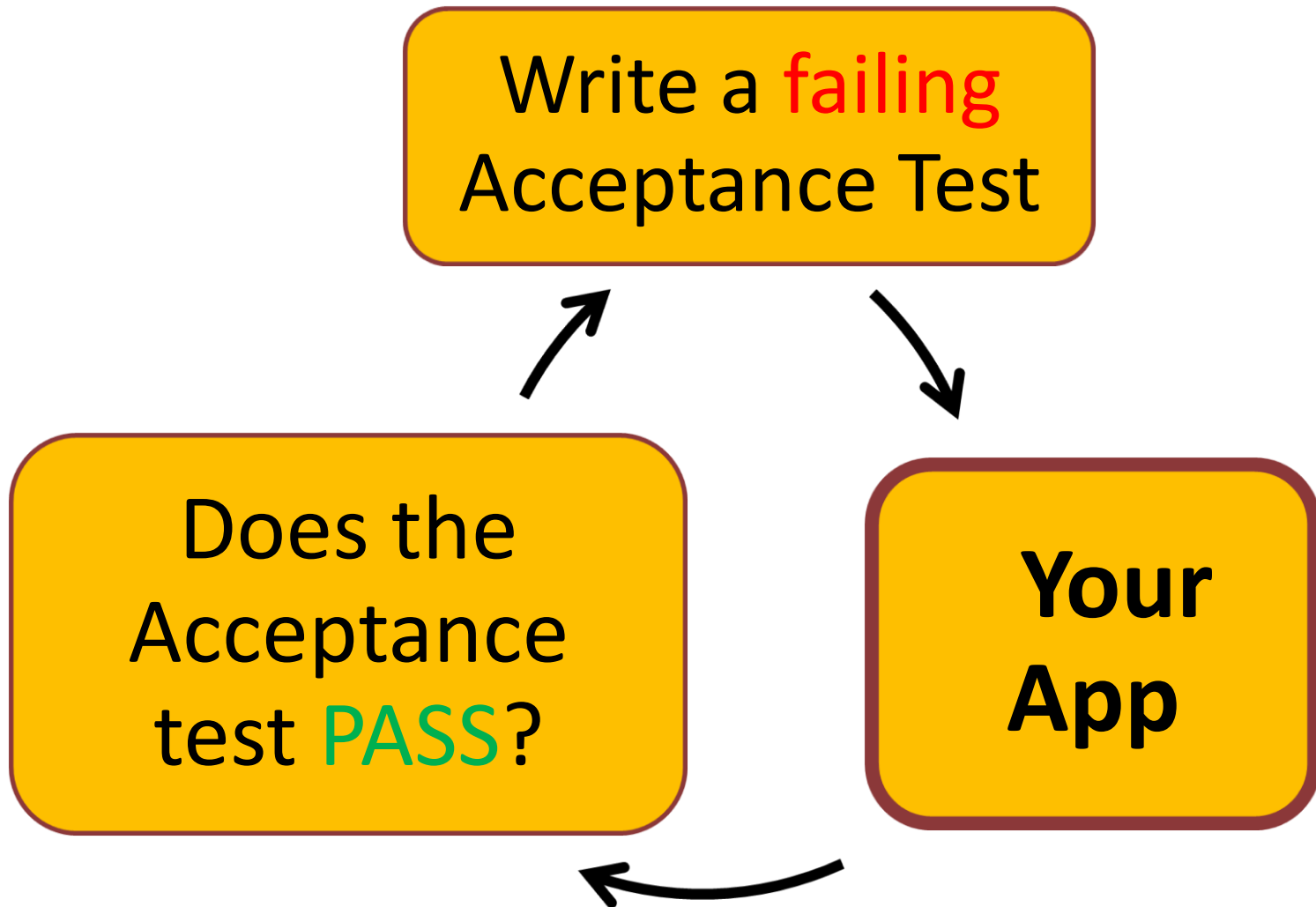
Reality bites !

SOLUTION

NEED : Common Understanding

Acceptance Test Driven Development

Write a failing Acceptance Test

Your App

Does the Acceptance test PASS?

GIVES: Outside In

GIVES: Ubiquitous Language

GIVES: Living Documentation

GIVES: Automated Acceptance Tests

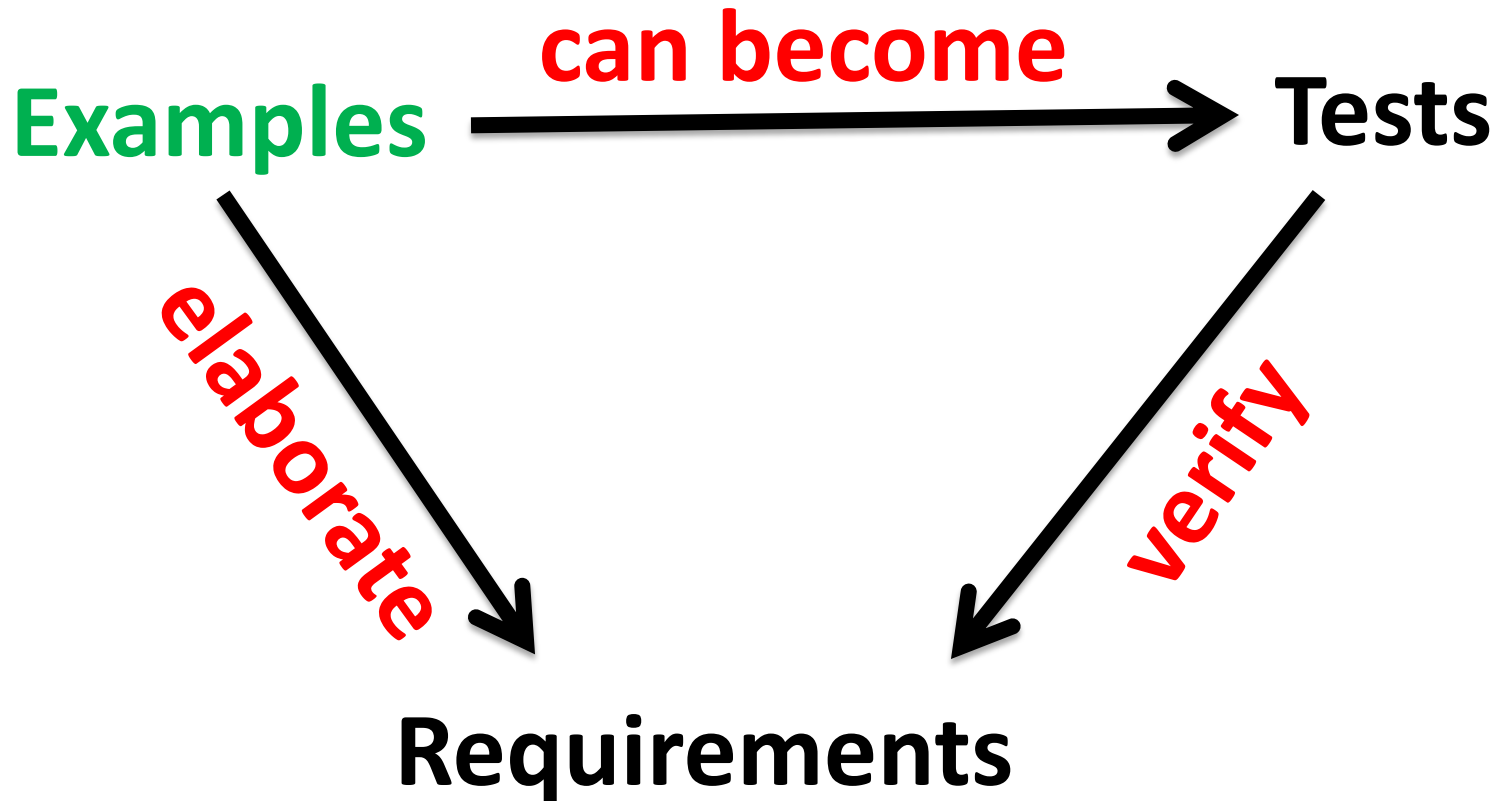# Behaviour Driven Development

Implementing an application by describing its behaviour by the perspective of its stakeholders

- Dan North

BDD uses **Examples** in conversations to illustrate behaviour

— Liz Keogh

Specifications->Examples-> Tests

Examples → **Tests**

can become

elaborate

verify

Requirements

BDD / Specifications By Example

Writing an **Example** into 3 sections:

(Given) some context

(When) some action is carried out

(Then) a particular set of observable consequences should obtain

Real Example

Given my bank account is in credit, and I made no withdrawals recently,

When I attempt to withdraw an amount less than my card's limit,

Then the withdrawal should complete without errors or warnings

BDD Toolbox

Specflow   Cucumber

Jbehave   Rspec

Easyb   Concordian

Robot Framework

and many more....

What is **Cucumber**?

Cucumber is a tool that executes plain-text functional descriptions as automated tests.

The language that Cucumber understands is called **Gherkin**.

But wait….What is the **INTENT** of the Tool ?

Cucumber Basics

Cucumber itself is written in **Ruby** but it can be used to "test" code written in Ruby or other languages including but not limited to Java, C# and Python.

Cucumber-JVM **for Java** supporting - Java, JavaScript, JRuby, Scala, Python, Groovy, Jython and JRuby

Gherkin

- Business Readable

- Domain Specific Language

- Describe software's behaviour without detailing how that behaviour is implemented.

Gherkin Sample

Feature: Hello World

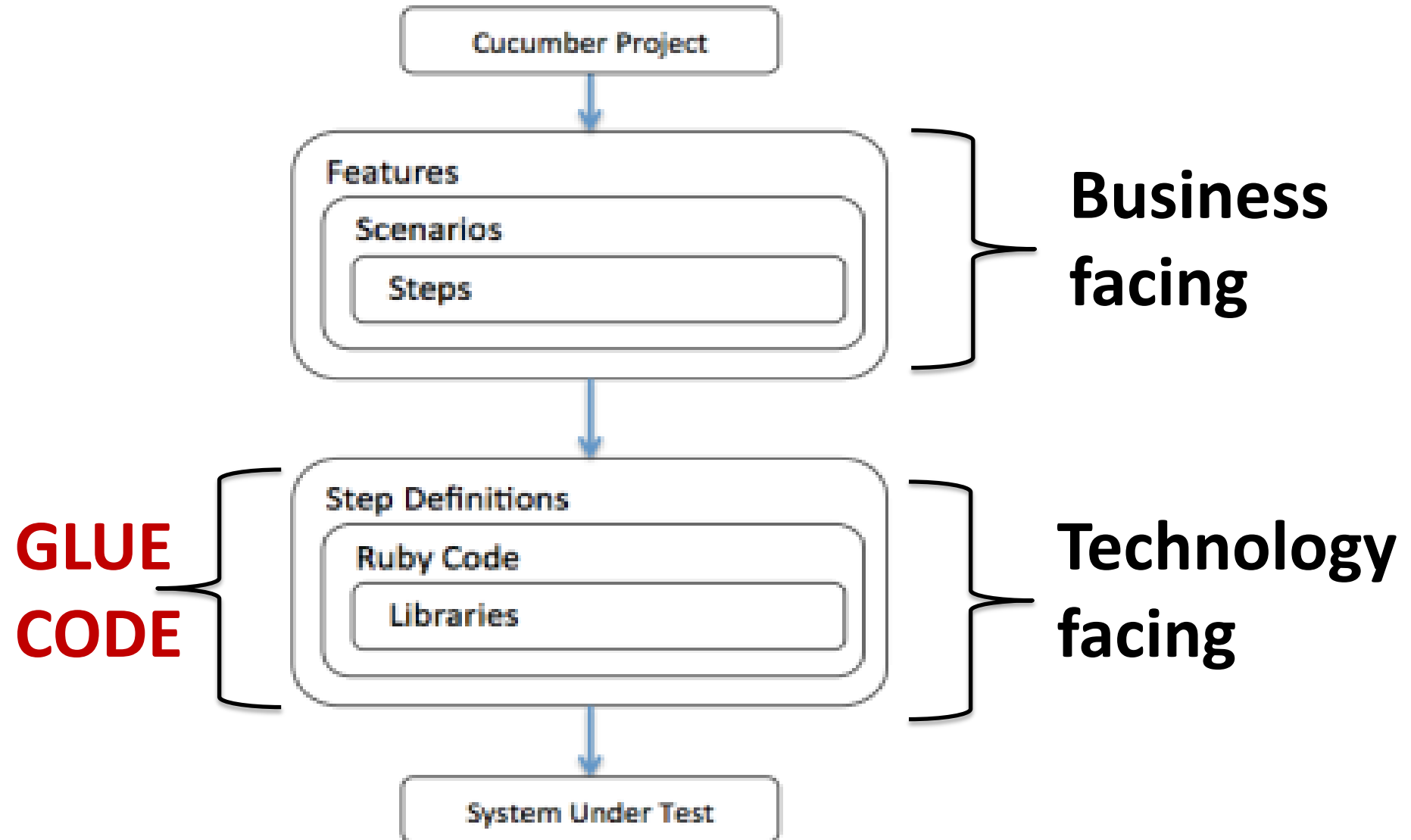**Scenario**: Say hello

    Given I have a hello app with "Howdy"

    When I ask it to say hi

    Then it should answer with "Howdy World"

* *Given-When-Then* are **Steps**

Cucumber Testing Stack

Gherkin - Sample Feature file

Feature: Hello World

Scenario: Say hello

   Given I have a hello app with "Howdy"
   When I ask it to say hi
   Then it should answer with "Howdy World"

* *Given-When-Then* are called as *Steps*

Step Definitions…Cucumber/Ruby/Java/.NET..

@Given("^I have a hello app with \"([^\"]*)\"$")
```
 public void I_have_a_hello_app_with(String greeting)
 {

    hello = new Hello(greeting);

}
```

@When("^I ask it to say hi$")
```
public void I_ask_it_to_say_hi()
{


    hi = hello.sayHi(); <---------  SUT

}
```

@Then("^it should answer with \"([^\"]*)\"$")
```
public void it_should_answer_with(String expected Hi)
 {   assertEquals(expectedHi, hi); }
```

SUT…

```java
public class Hello
 {
    private final String greeting;
    public Hello(String greeting)
    {
            this.greeting = greeting;
    }
    public String sayHi()
    {
            return greeting + " World";
    }
}
```

Feature Result for Build: 2

Below are the results for this feature:

Feature: Account Holder withdraws cash

As an Account Holder
I want to withdraw cash from an ATM
So that I can get money when the bank is closed

Scenario Outline: Account has sufficient funds
Given the account balance is 100
And the card is valid
And the machine contains 100
When the Account Holder requests 20
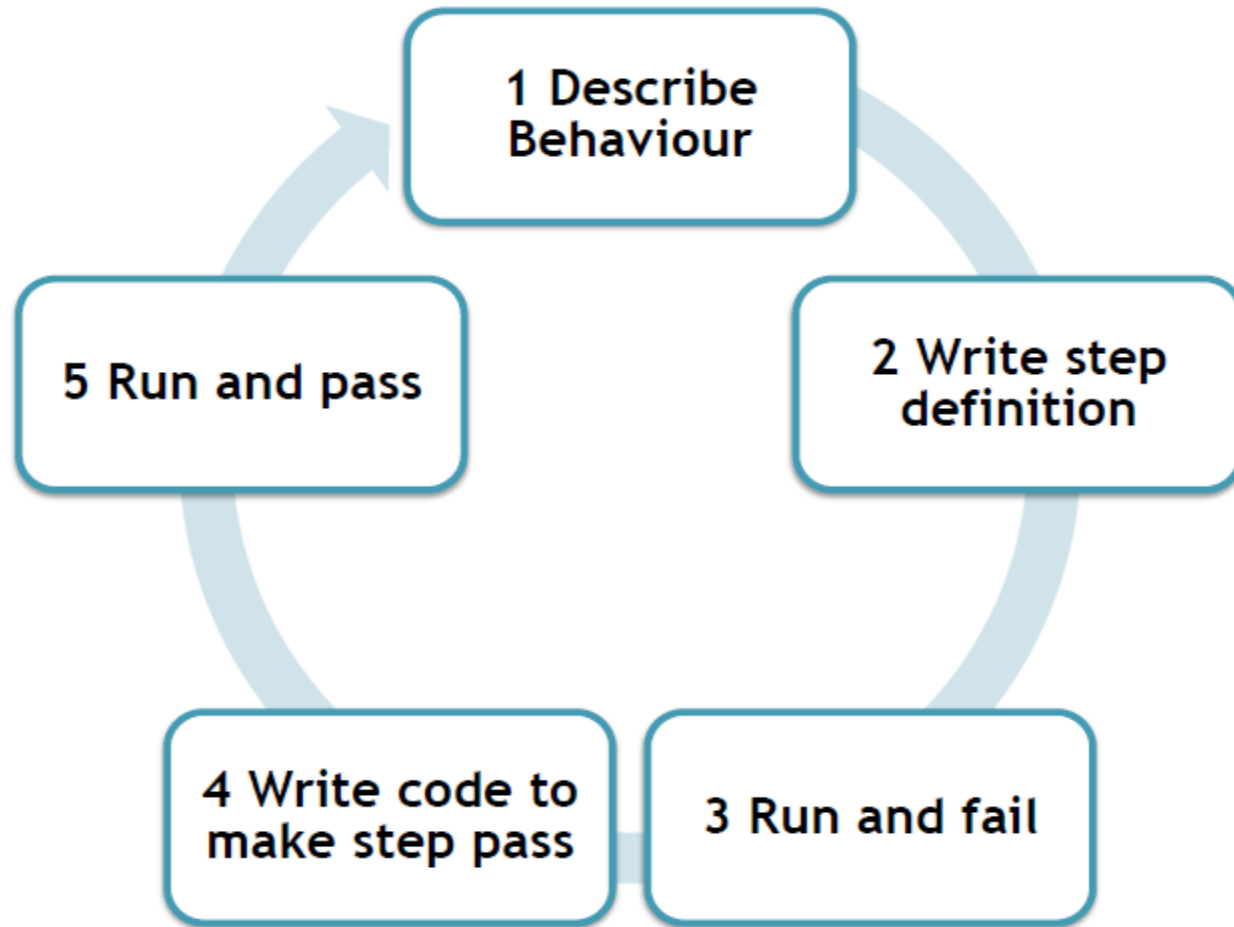**Then** the ATM should dispense 20
And the account balance should be 80
And the card should be returned

Feature Statistics

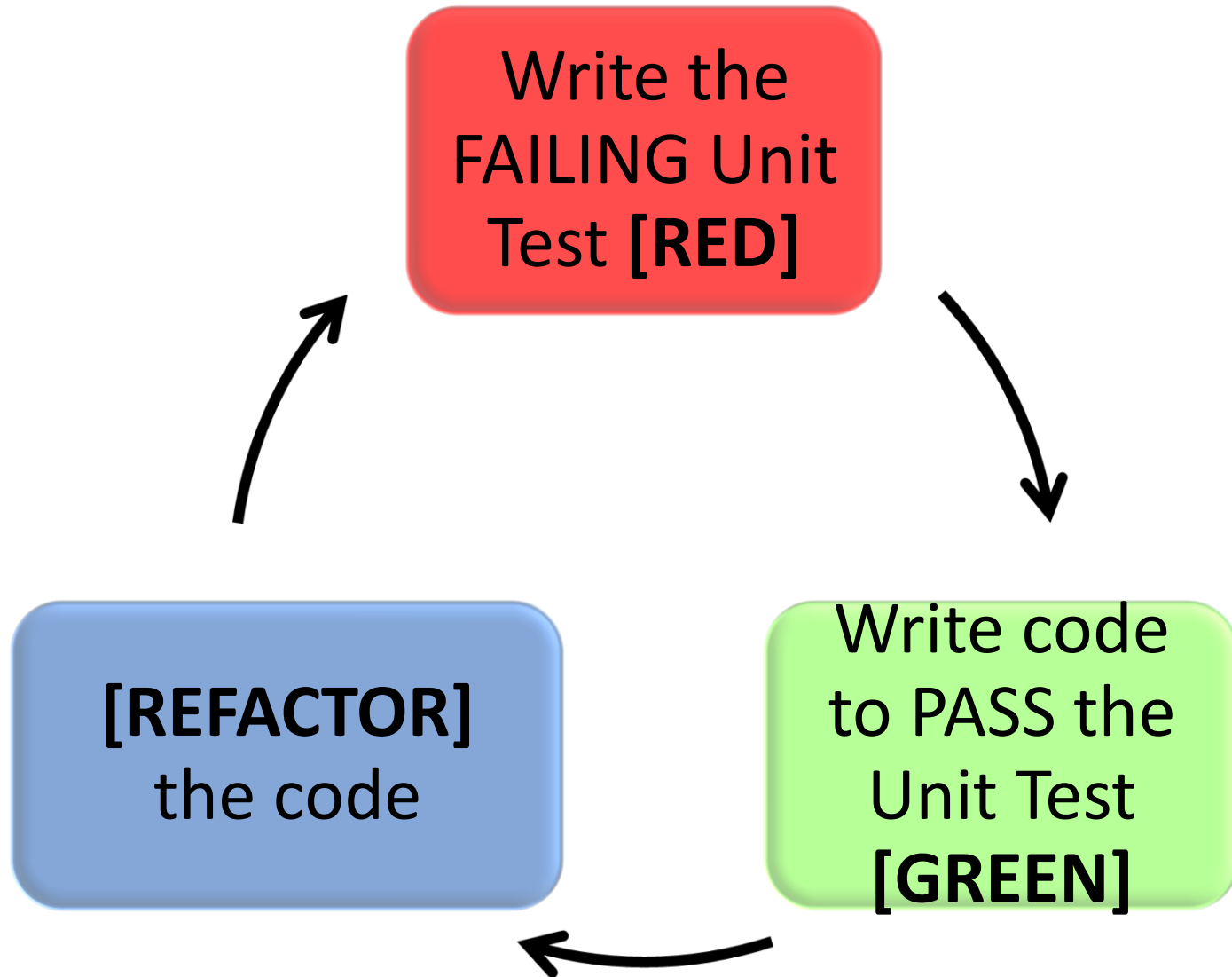| Feature	Scenarios	Steps	Passed	Failed	Skipped	Status
Feature: Account Holder withdraws cash	1	7	7	0	0	passed

Complete BDD Cycle

BDD / TDD ?

BDD : Team gets feedback from the Product Owner

TDD : Coder gets feedback from code

Test Driven Development

**ATDD – TDD
Rinse & Repeat !!**

Write a failing
acceptance test

Make the
test pass

Refactor

Does the
acceptance
test pass?

Write a failing
unit test
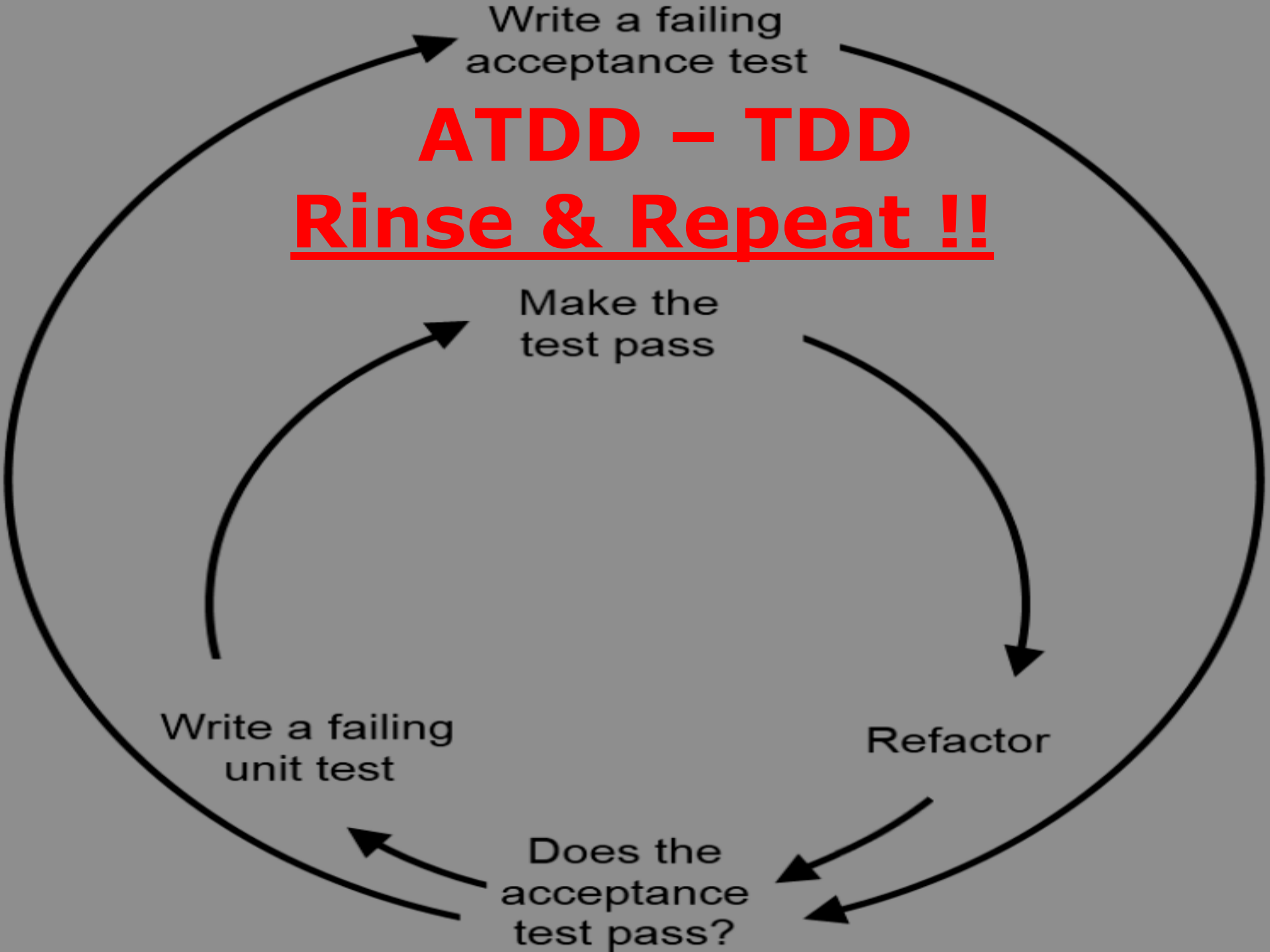
In the end

BDD is a second generation, outside-in, pull based, multiple stakeholder, multiple-scale, high automation, agile methodology. It describes a cycle of interactions with well defined outputs, resulting in the delivery of working, tested software that matters

- Dan North

BDD : The real INTENT ?

COLLABORATION

Are you ready to CUKE….?

- Simple App [Java, Cucumber JVM]
- Web App [Java, Cucumber JVM, Selenium]

Thank you!

@amehdiratta

http://about.me/amehdiratta

http://www.slideshare.net/mehdiraa/presentations

Credits

- Specification By Example , By Gojko Adzic
- The Cucumber Book, By Matt Wynne and Aslak Hellesoy
- cukes.info
- aslakhellesoy.com

Photos

http://www.toldontape.co.uk/wp-content/uploads/2011/08/start-end-line.jpg
http://www.easyvectors.com/assets/images/vectors/afbig/outline-smiley-icons-clip-art.jpg
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http://wallpapers.free-review.net/21_~_River_stone.htm
http://upload.wikimedia.org/wikipedia/commons/6/65/Stones_Porto_DSCF0572.jpg
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http://greenwood-carving.blogspot.in/2010/10/beautiful-axes-japanese-carpentry-tools.htm
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http://media.dwell.com/images/480*583/crash-test-dummy-thackray-laura.jpg
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http://img2.wikia.nocookie.net/__cb20100609122817/eincyclopedia/images/7/76/Question_mark_cucumber_tomato-5507.jpg
http://blog.gessato.com/wp-content/uploads/2011/11/outsidein-takeshihosakaarchitects-gselect-gessato-gblog-03.jpg
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http://www.iceira.ntu.edu.tw/en/uploads/news/20130402_ctimes/news_02.jpg
http://www.masterthought.net/section/cucumber-reporting