

Behavior Driven Development (BDD)

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1T1S FOA TEST

My Vehicles

- All My Vehicles
- AM group
- FH-1270_new
- FH-1409_NEW2
- FH-502 White Truck 1
- FM-492
- Pottava
- TELEMATARIG000111
- Telematic 7.1
- Telematic 7.2
- Telematics 7

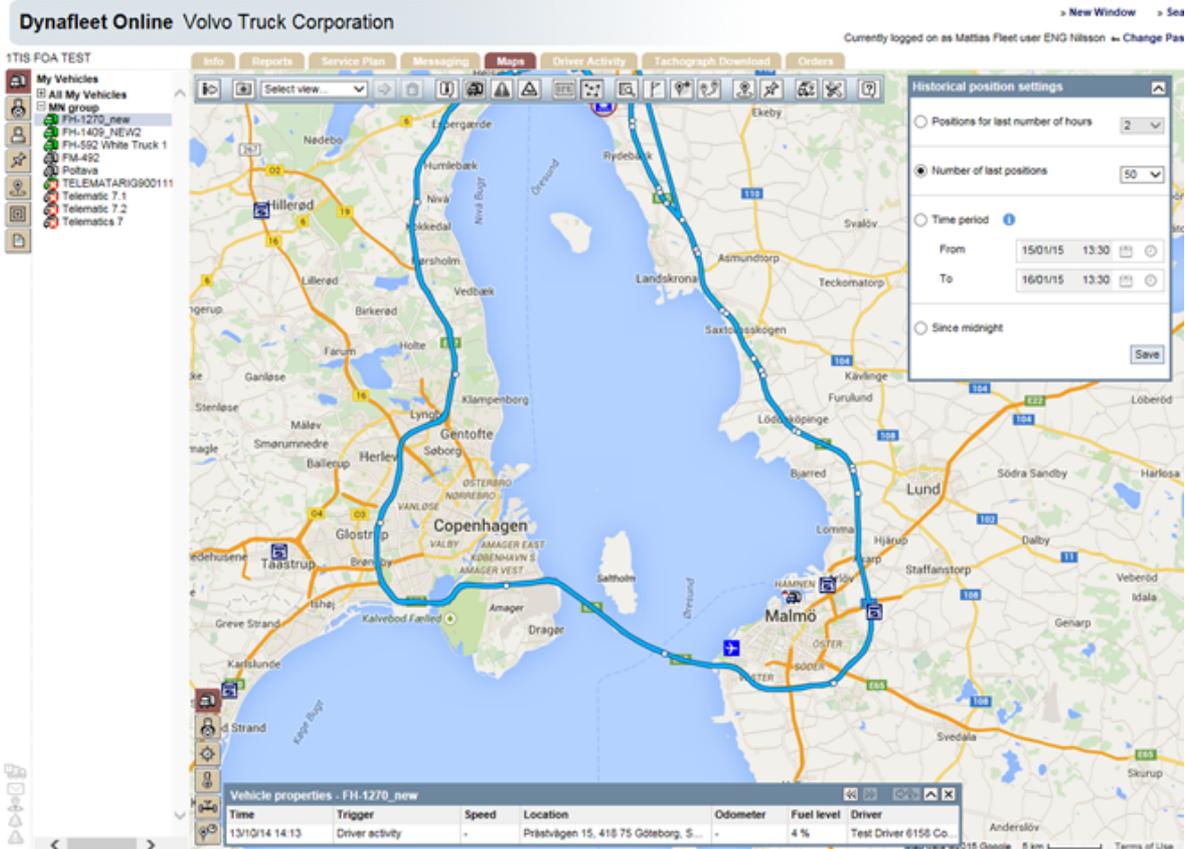
Historical position settings

- Positions for last number of hours: 2
- Number of last positions: 50
- Time period: 1
- From: 15/01/15 13:30
- To: 16/01/15 13:30
- Since midnight

Save

Vehicle properties - FH-1270_new

Time	Trigger	Speed	Location	Odometer	Fuel level	Driver
13/10/14 14:13	Driver activity	-	Prästvägen 15, 418 75 Göteborg, S...	-	4 %	Test Driver 6158 Co...



Agenda

- Introduction to BDD
- Cucumber BDD framework
- Live demo
- Pros/cons of BDD
- Questions?

Introduction to BDD

Introduction to BDD

Test Driven Development



Dan North

Introduction to BDD

```
public class TestJAccount {  
  
    @Test  
    public void testWithdraw(){  
        //...  
    }  
  
    @Test  
    public void testWithdrawWithException(){  
        //...  
    }  
}
```

Introduction to BDD

agiledox >

```
public class MoneyWithdrawTest {  
  
    @Test  
    public void testSuccessWhenEnoughMoneyOnAccount(){  
        //...  
    }  
  
    @Test  
    public void testFailsWhenLackOfMoneyOnAccount(){  
        //...  
    }  
}
```

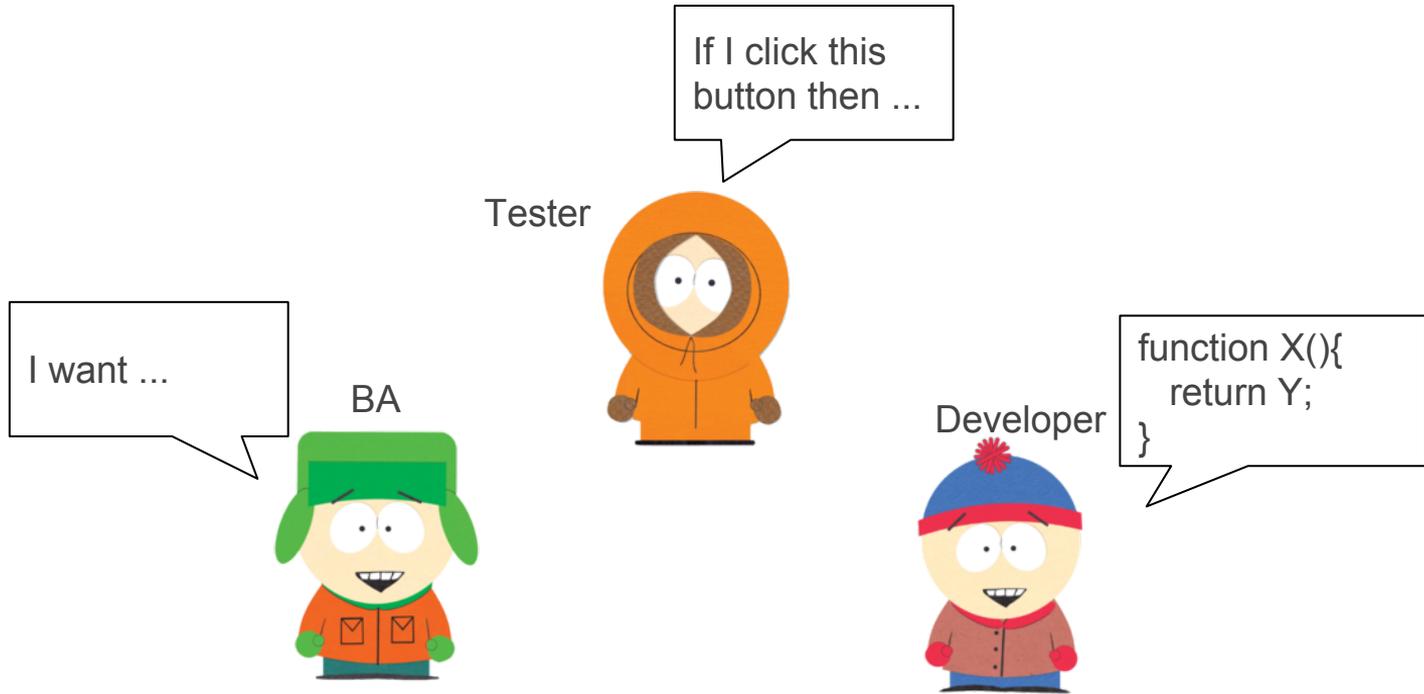
MoneyWithdraw

- success when enough money on account
- fails when lack of money on account

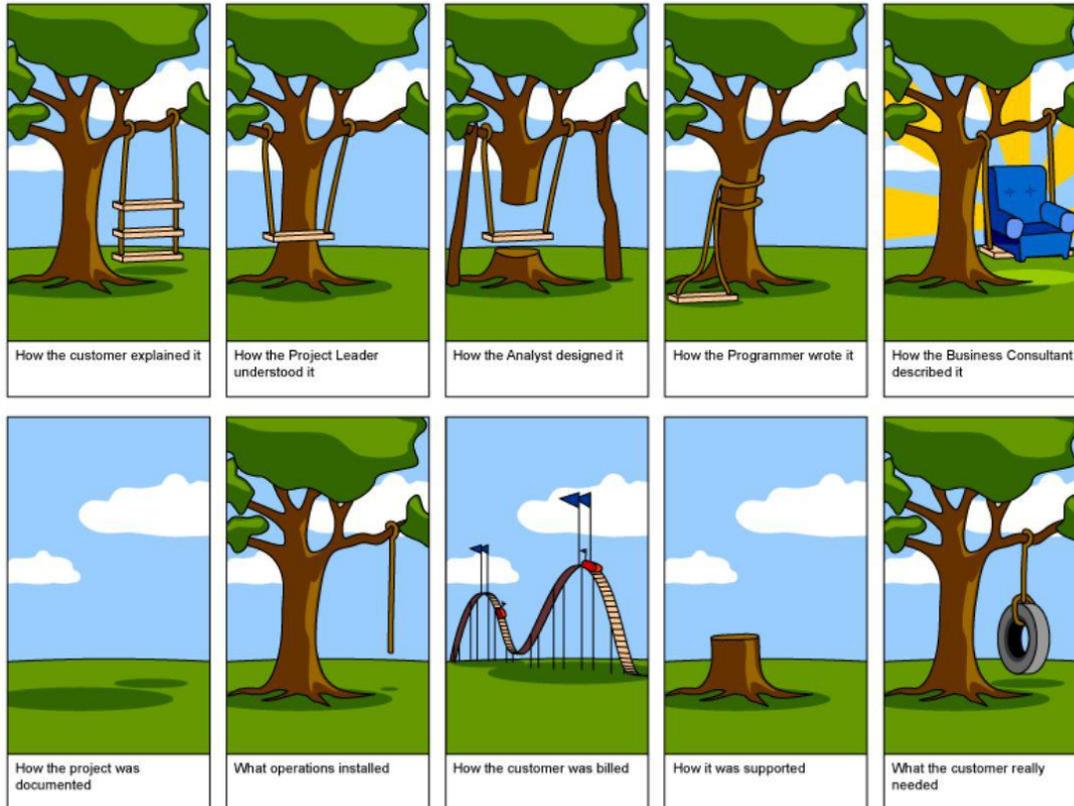
Introduction to BDD

Behavior Driven Development

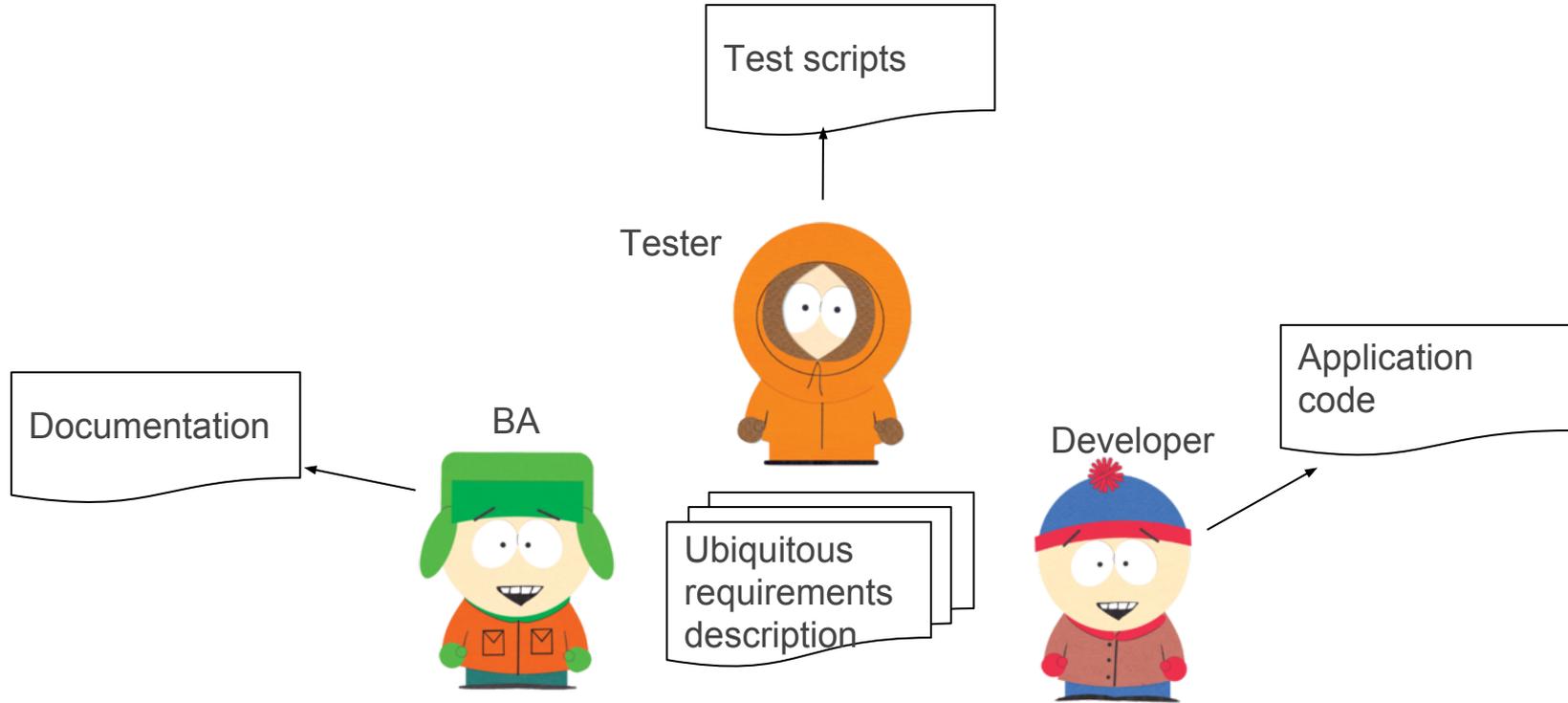
Introduction to BDD



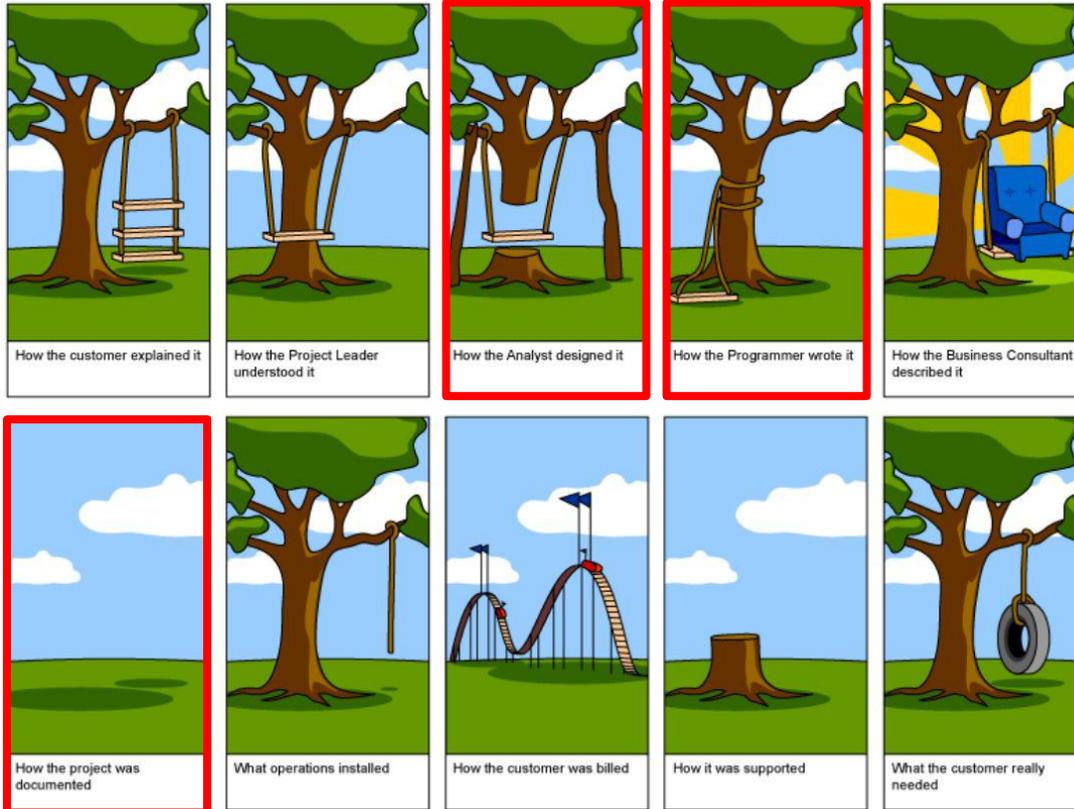
Introduction to BDD



Introduction to BDD



Introduction to BDD



Introduction to BDD

Behavior Driven Development

(how we write and test requirements)

Introduction to BDD

Story (feature):

As a [role] **I want** [feature] **so that** [benefit]

Example: **As a** customer **I want** to withdraw money from an ATM **so that** I don't have to go to the bank

Introduction to BDD

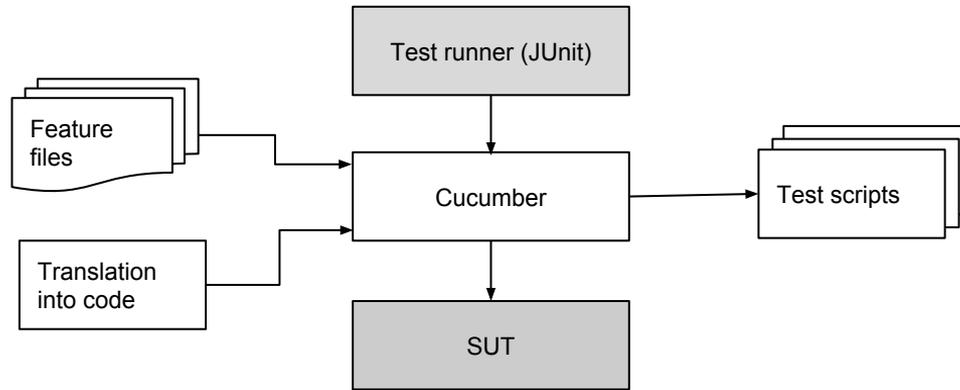
Story acceptance criteria (scenario):

Given [initial context] **when** [event] **then** [outcomes]

Example: **Given** there is enough money on my account **when** I make a withdrawal **then** I get the expected amount of money from the ATM

Cucumber BDD framework

Cucumber BDD framework



Cucumber: Gherkin logic

Gherkin logic

Feature: Withdraw money

In order to avoid going to the bank

As a customer

I want to withdraw money from an ATM

Scenario: Withdraw less money than the account has

Given there is enough money on my account

When I make a withdrawal

Then I get the expected amount of money from the ATM

And receipt is printed

Cucumber: parametrization

Gherkin logic

Scenario: Withdraw less money ...

Given I have 200 SEK on my account

When I withdraw 100 SEK

Then I get 100 SEK from the ATM

Scenario: Withdraw more money ...

Given I have 50 SEK on my account

When I withdraw 100 SEK

Then I get 0 SEK from the ATM

Scenario: Withdraw money from the account

Given I have <balance> SEK on my account

When I withdraw <withdraw> SEK

Then I get <received> SEK from the ATM

Examples:

balance	withdraw	received
200	100	100
50	100	0

Cucumber: annotations

Gherkin logic

@prod

Scenario: Withdraw less money ...

Given I have 200 SEK on my account

When I withdraw 100 SEK

Then I get 100 SEK from the ATM

@test

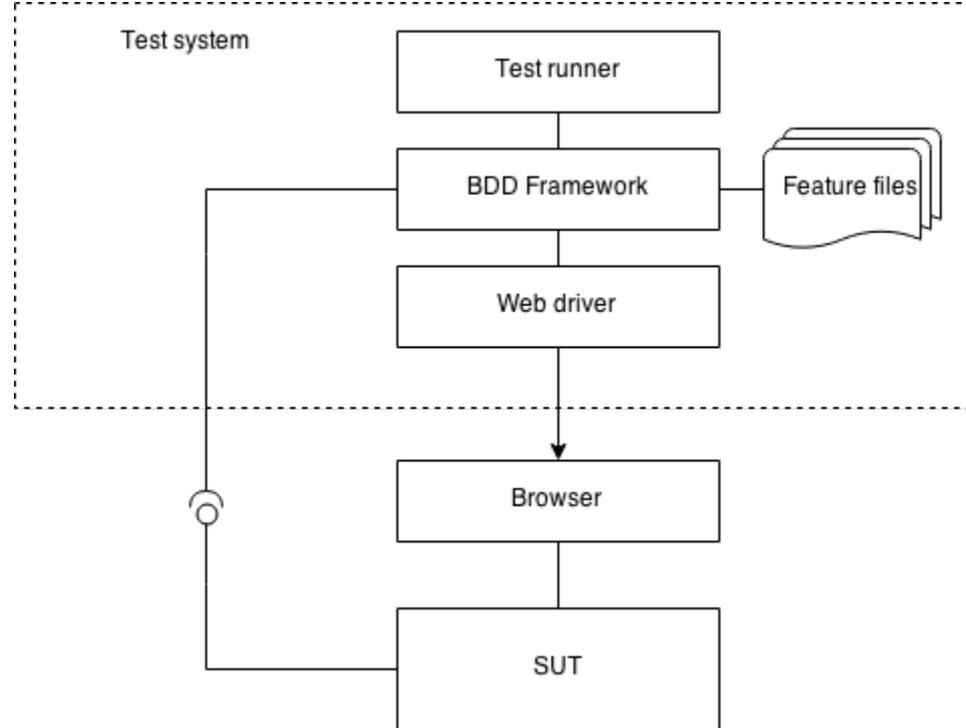
Scenario: Withdraw more money ...

Given I have 50 SEK on my account

When I withdraw 100 SEK

Then I get 0 SEK from the ATM

BDD for complex systems



Live demo: OEM portal

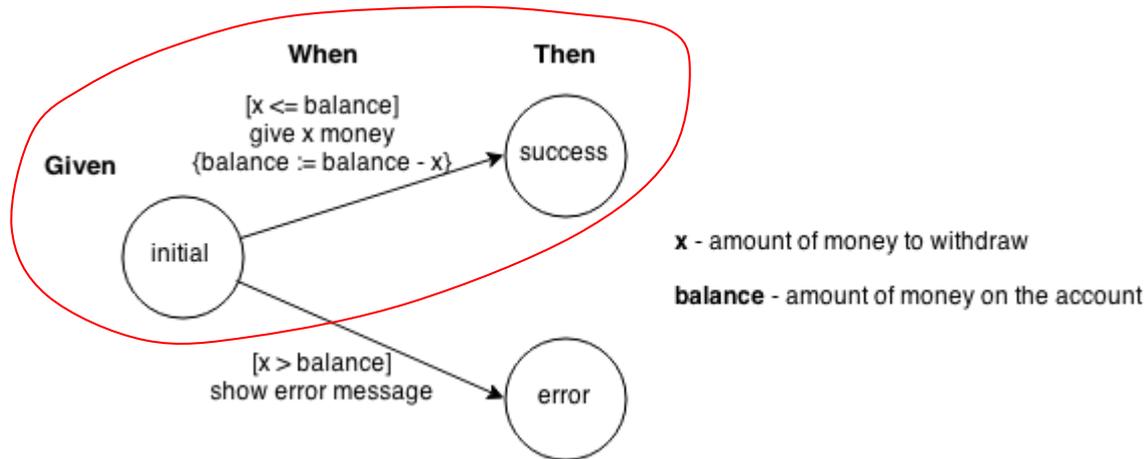
Live demo: ATM

Pros/cons of BDD

- Level of abstraction for steps?
- Becomes complex for complex systems
- Lack of tool support

P.S. BDD in a context of FSM

Given I have 200 SEK on my account **when** I withdraw 100 SEK **then** I get 100 SEK from the ATM



Questions?

References

Cucumber framework:

<https://cucumber.io/>

Gherkin language:

<http://docs.behat.org/en/latest/guides/1.gherkin.html>

Dan North about BDD:

<http://dannorth.net/introducing-bdd/>

How BDD can be misused:

<https://cucumber.io/blog/2014/03/03/the-worlds-most-misunderstood-collaboration-tool>