

Specification by Example

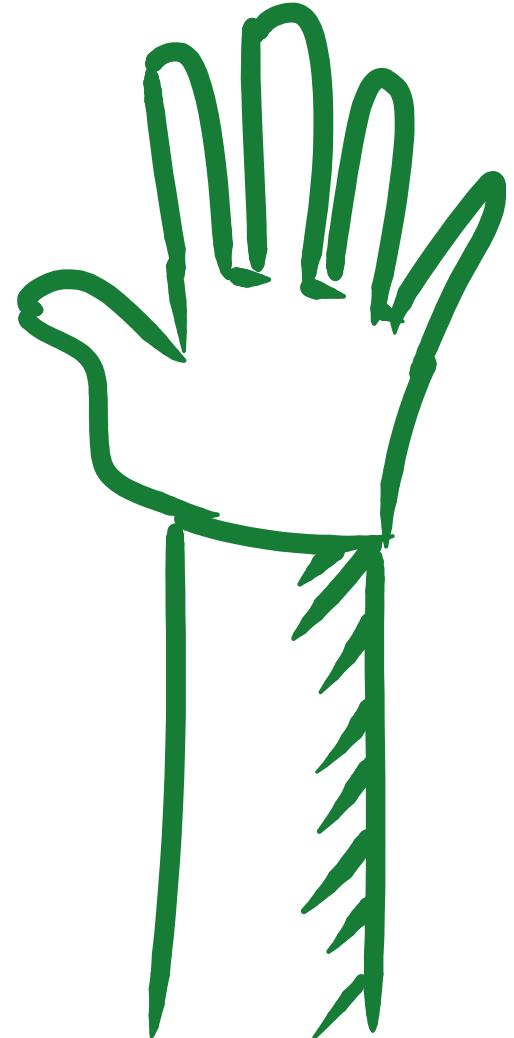
to the pOint



Nikolas.M@rtens.org

FrOSCon 2013

First ...
show your



Who are you guys?

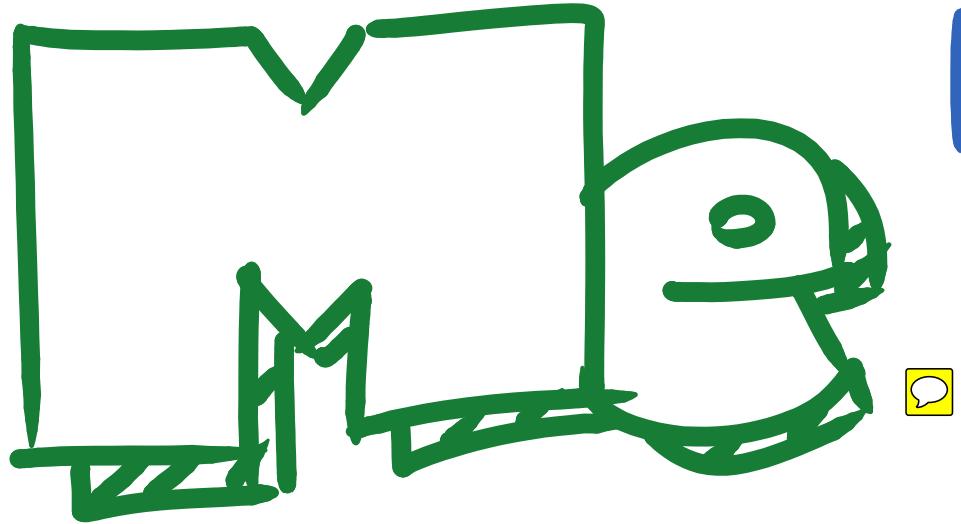
Developers? 

Designers?

Managers?

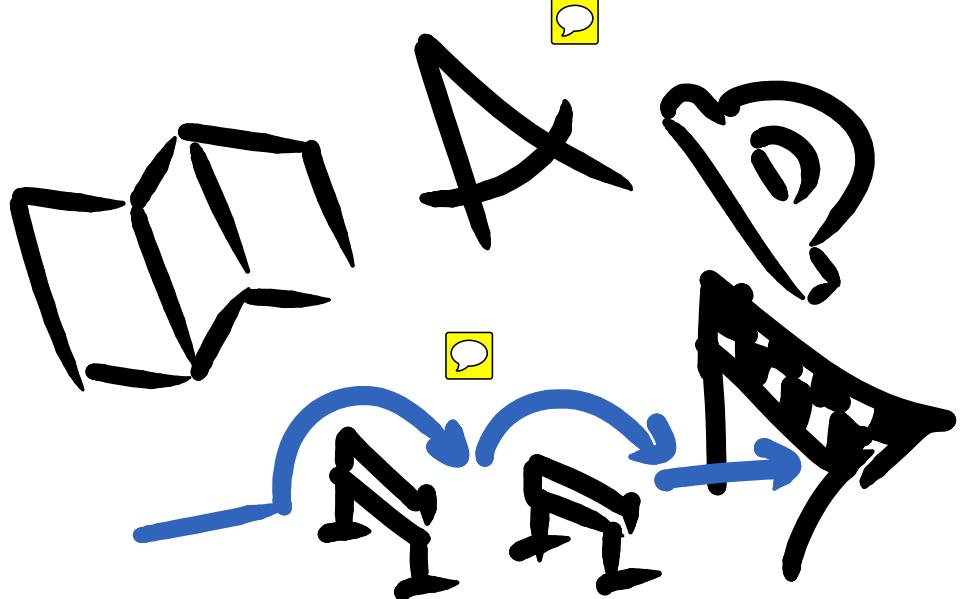
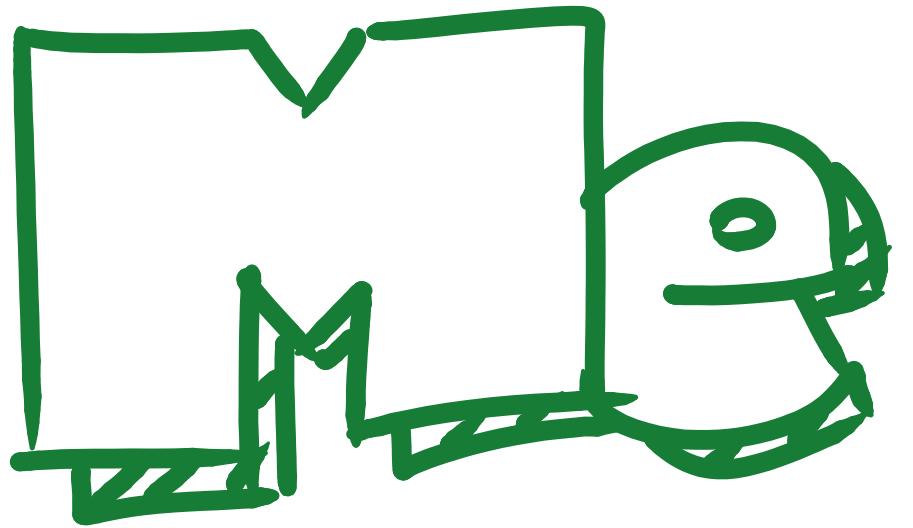
Real humans?



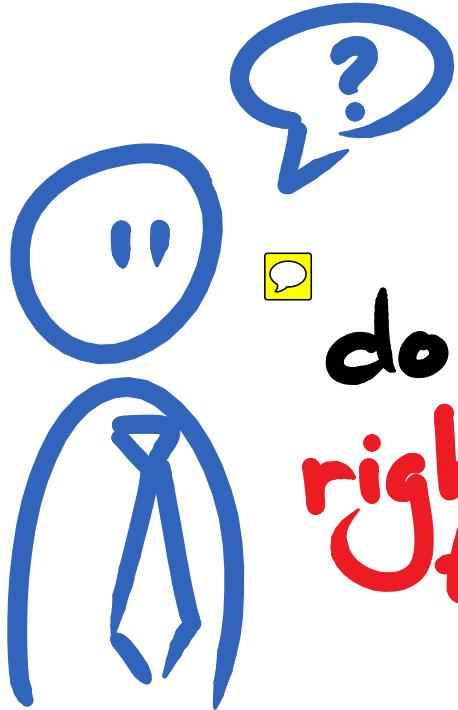


Nikolas Martens
rtens.org

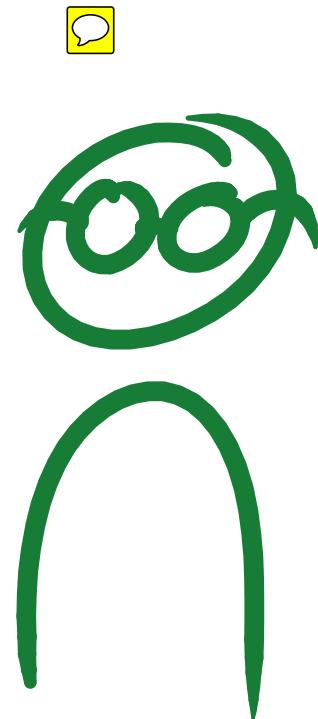
Perl
QBasic Java Web TUM ResearchGate
13 → 28



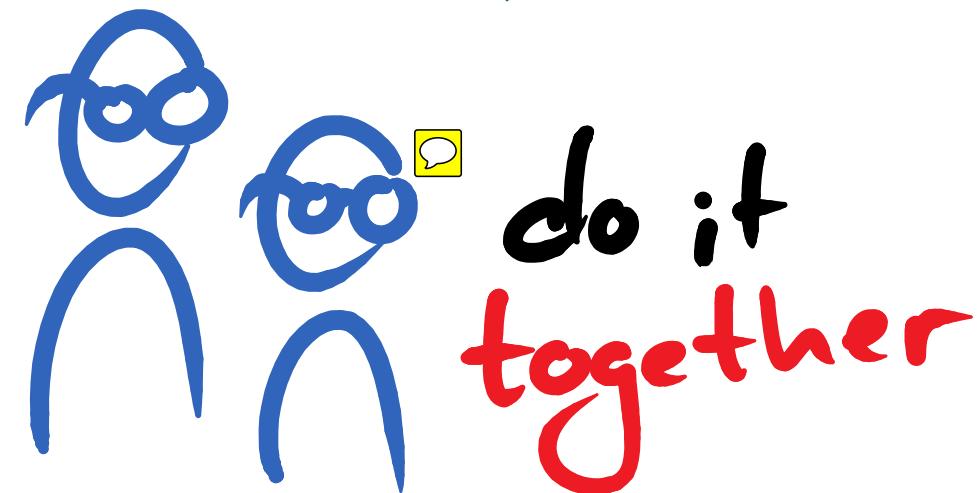
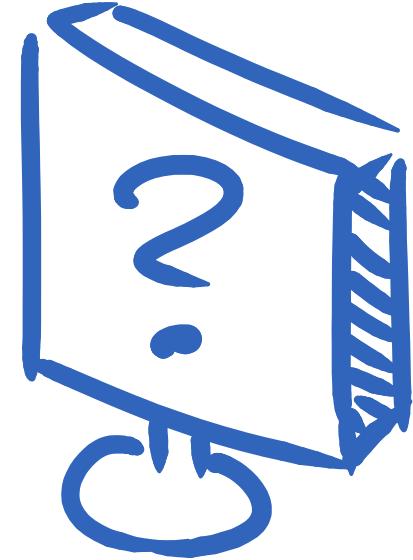
=> SъE



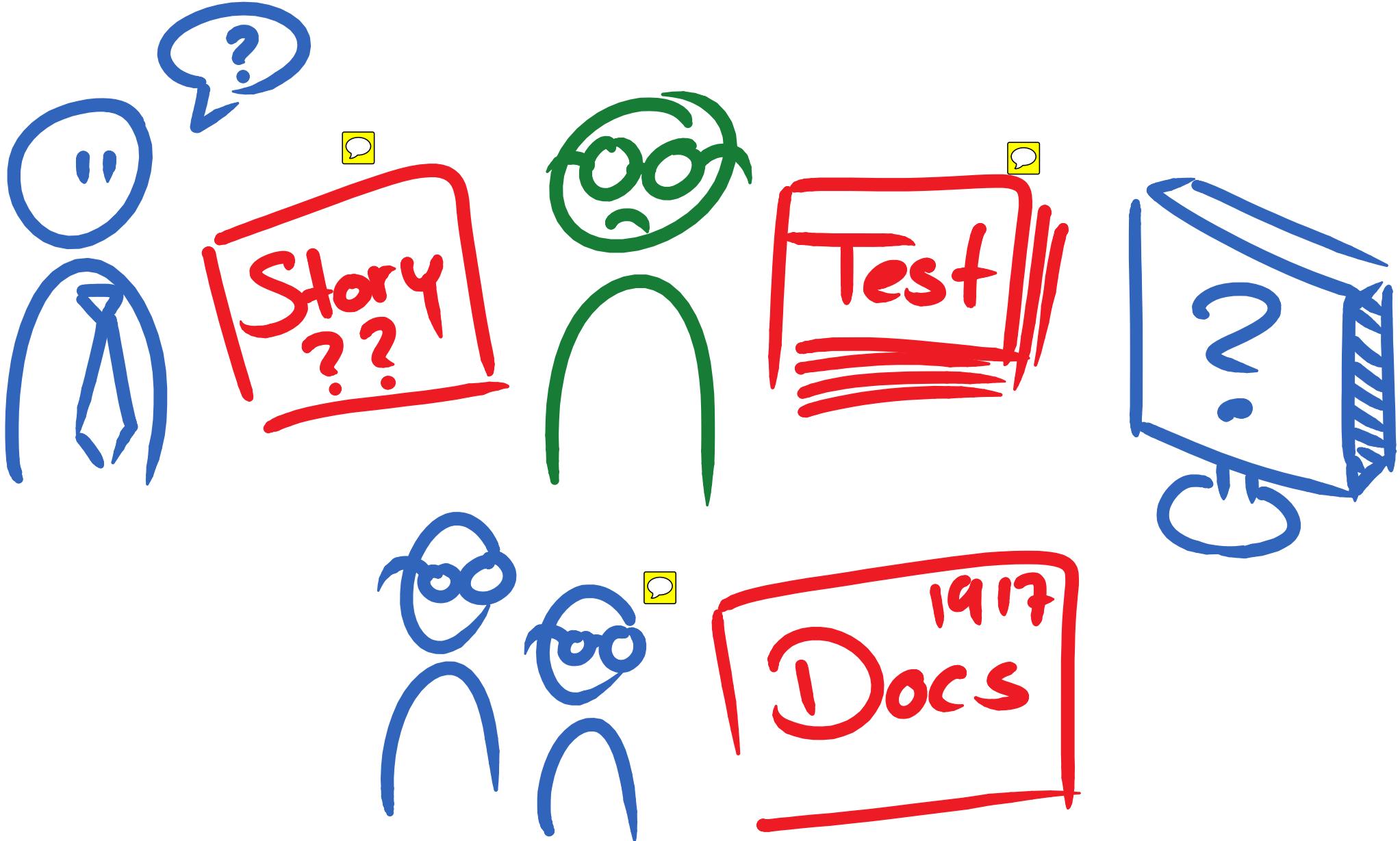
do the
right thing

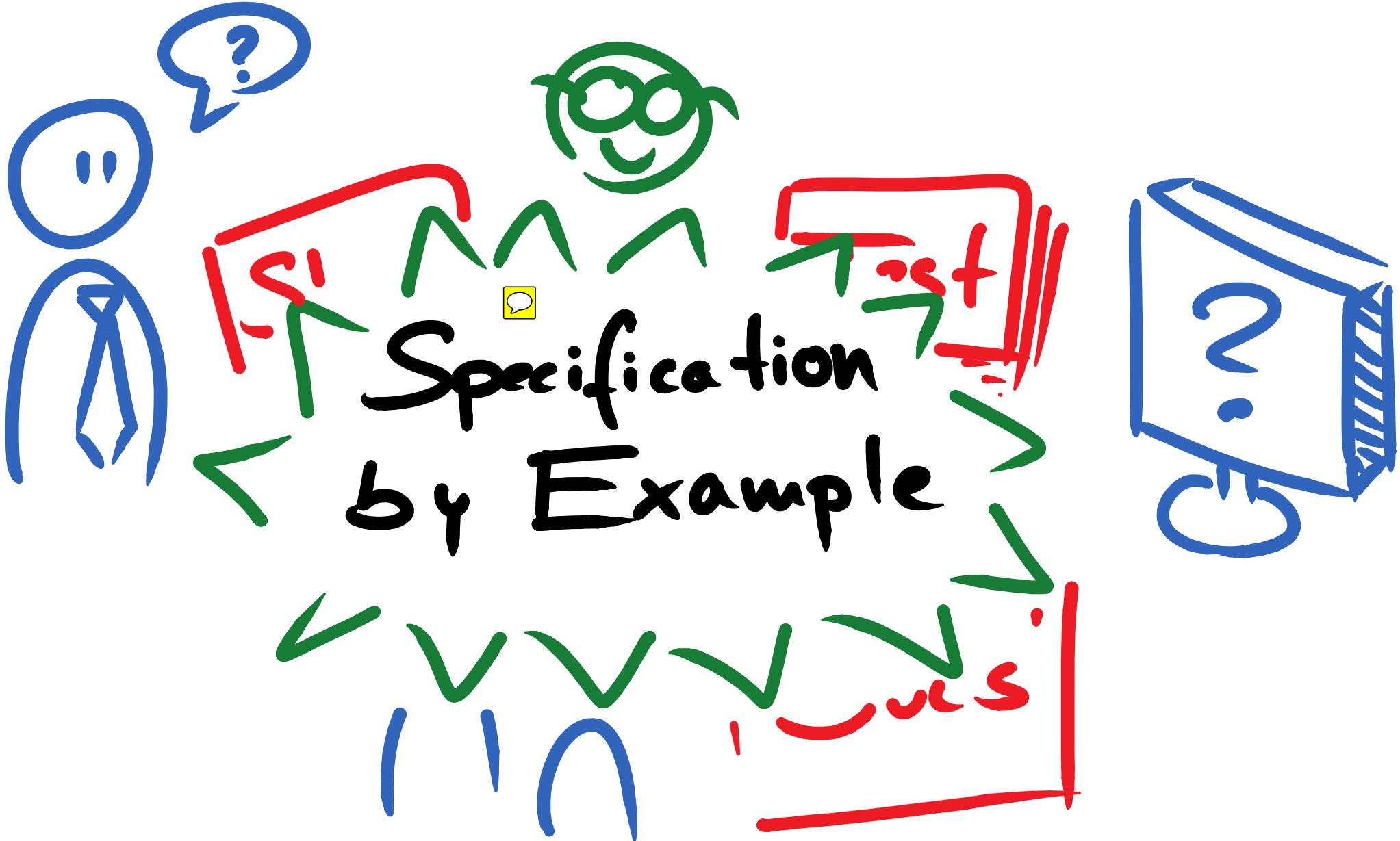


do the
thing
right

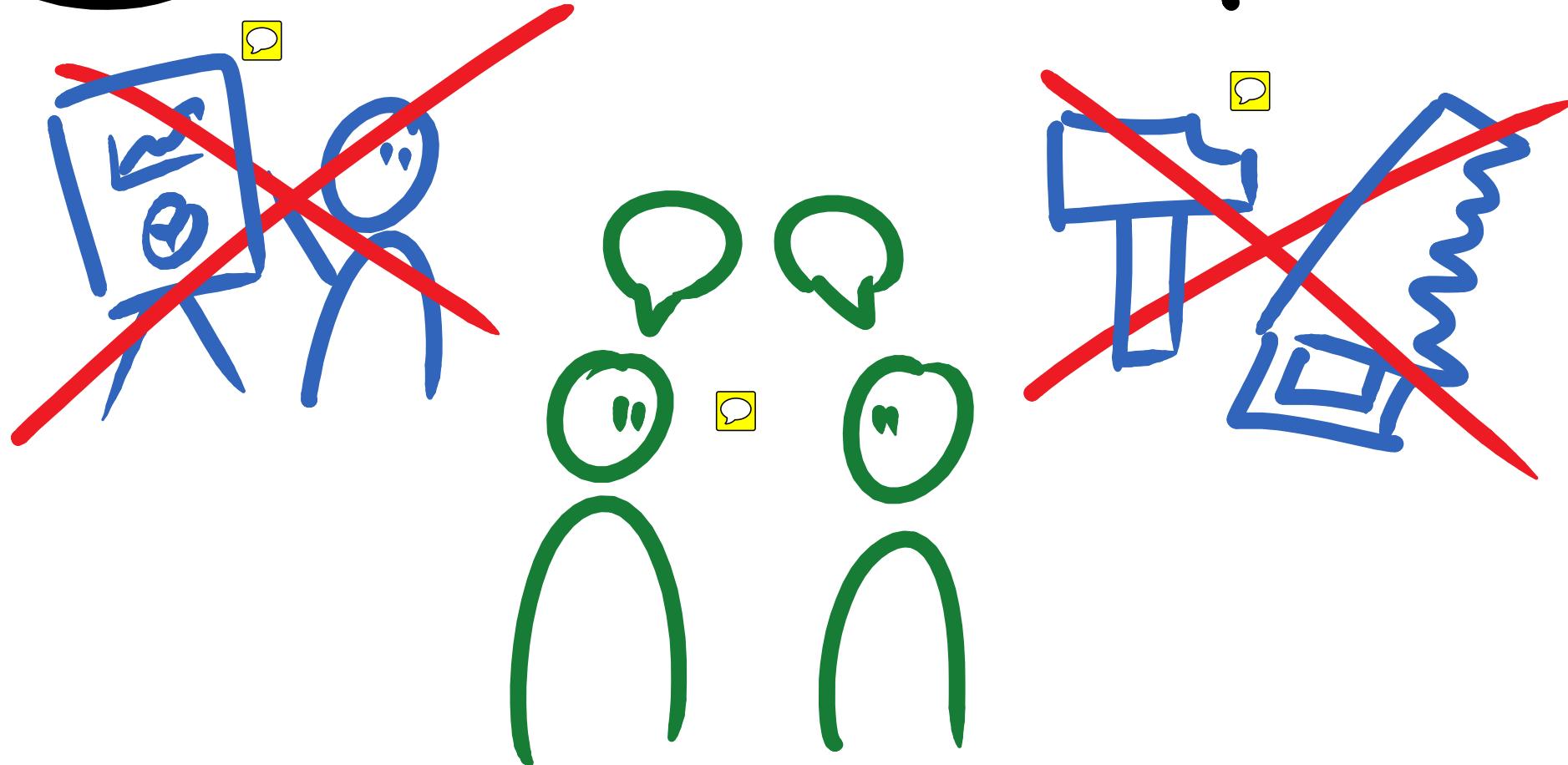


do it
together





But what is it?



Who has heard
of SbE?

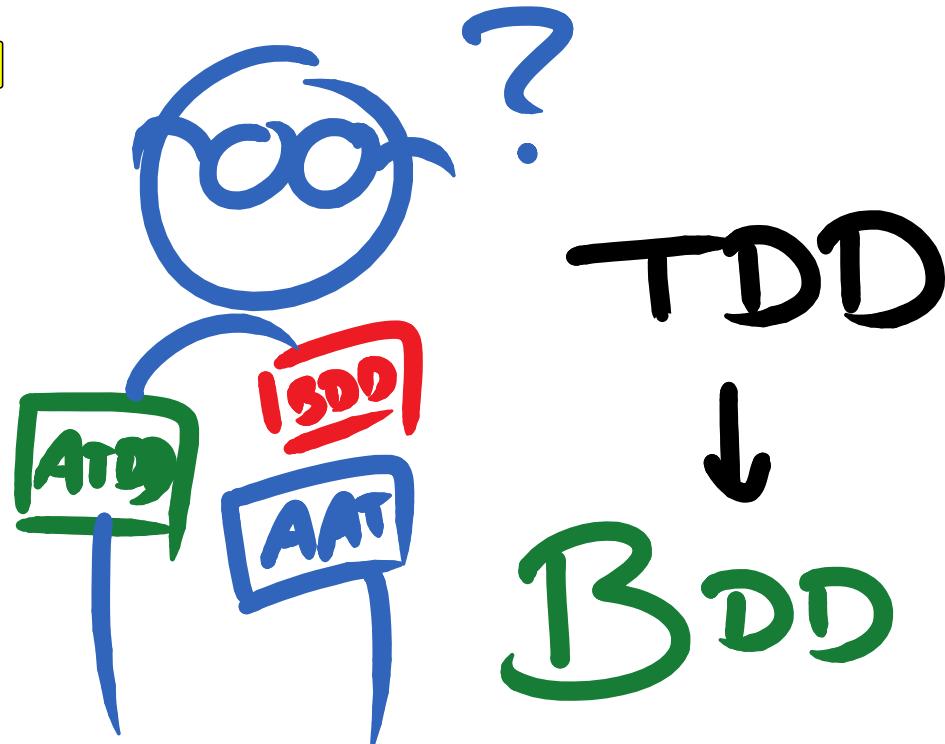
Agile acceptance testing?

Acceptance Test-Driven?

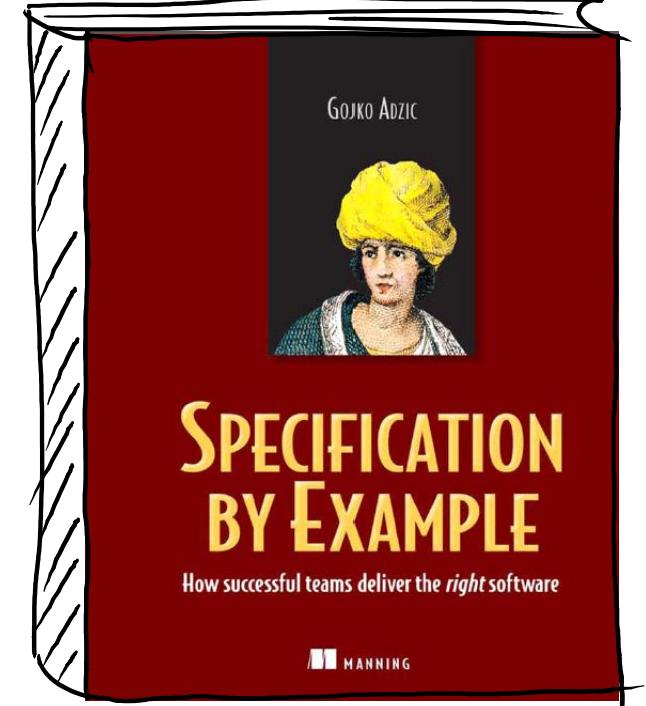
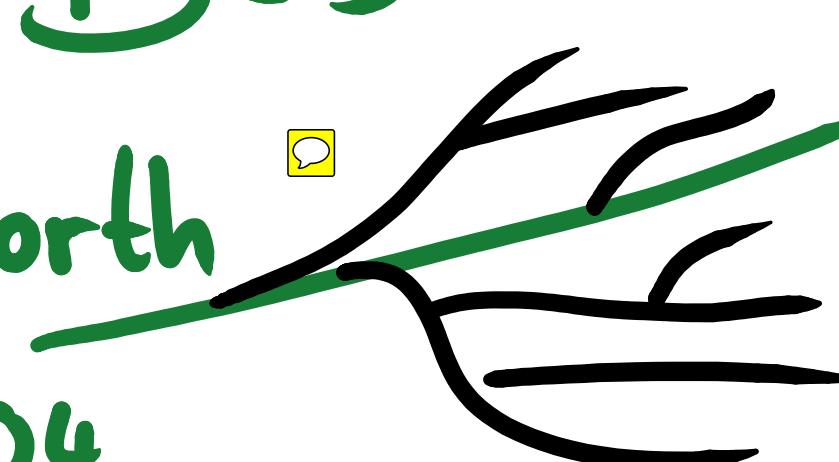
Example-Driven? 

Behavior-Driven Development

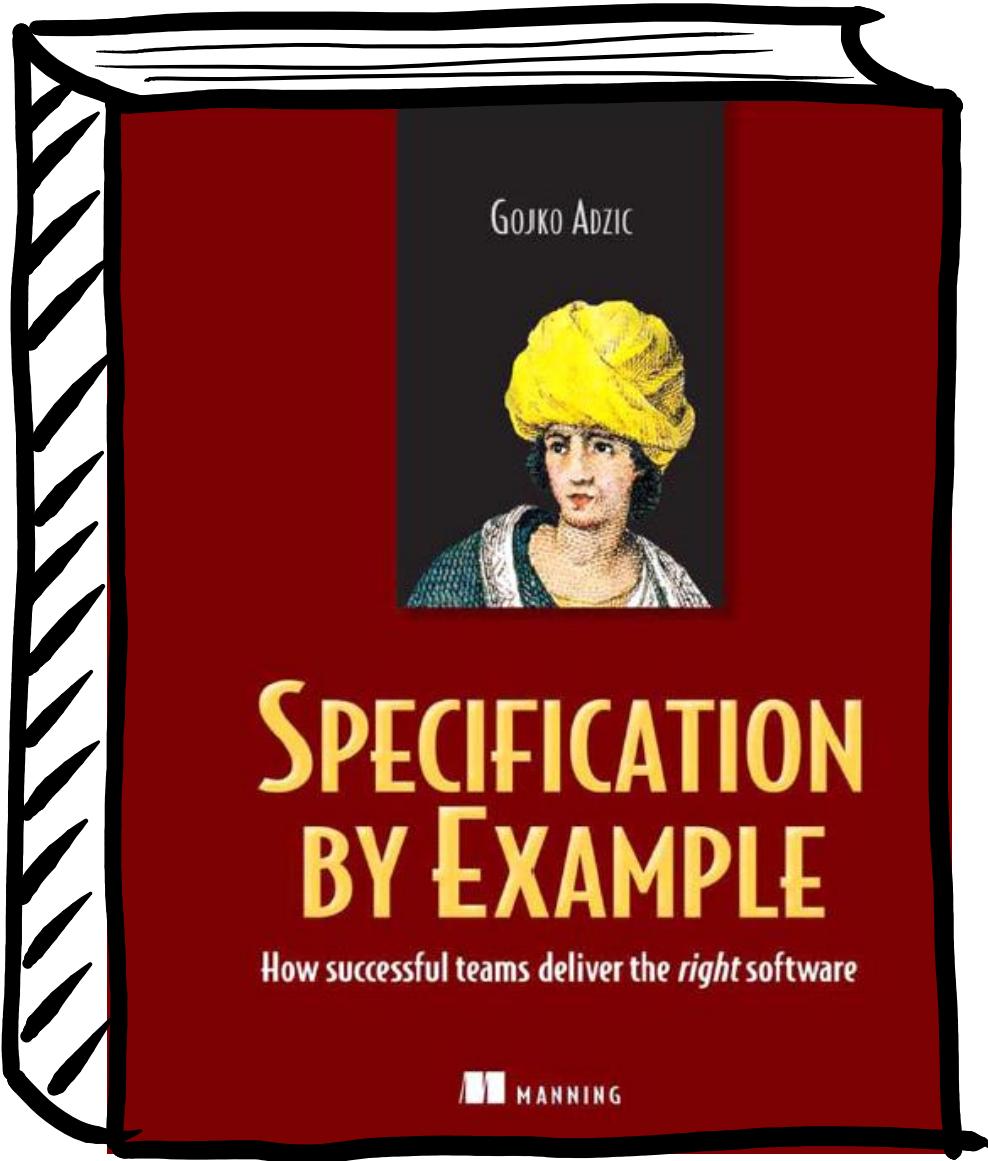




Dan North
2004



Gojko
Adzic
2011

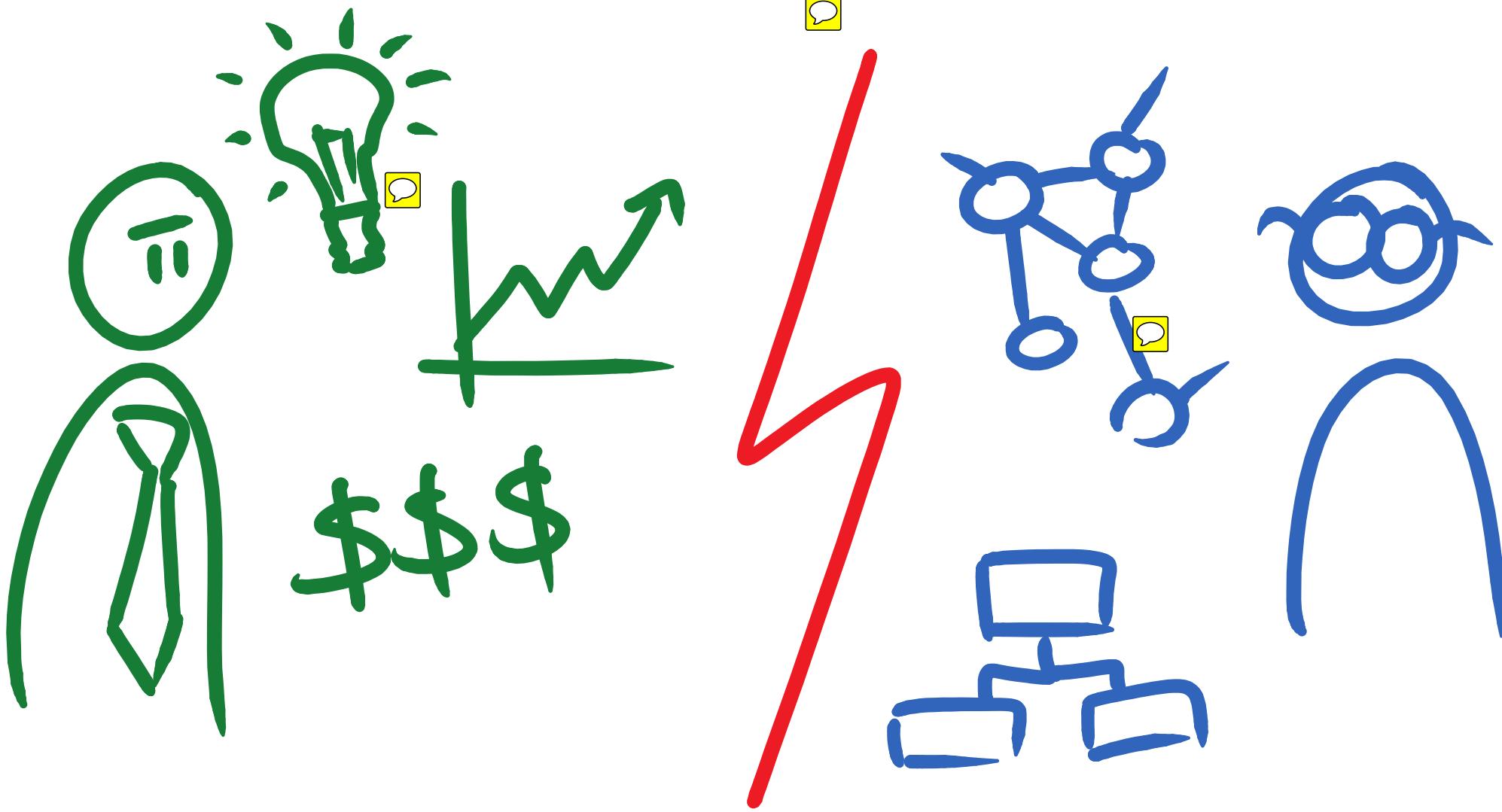


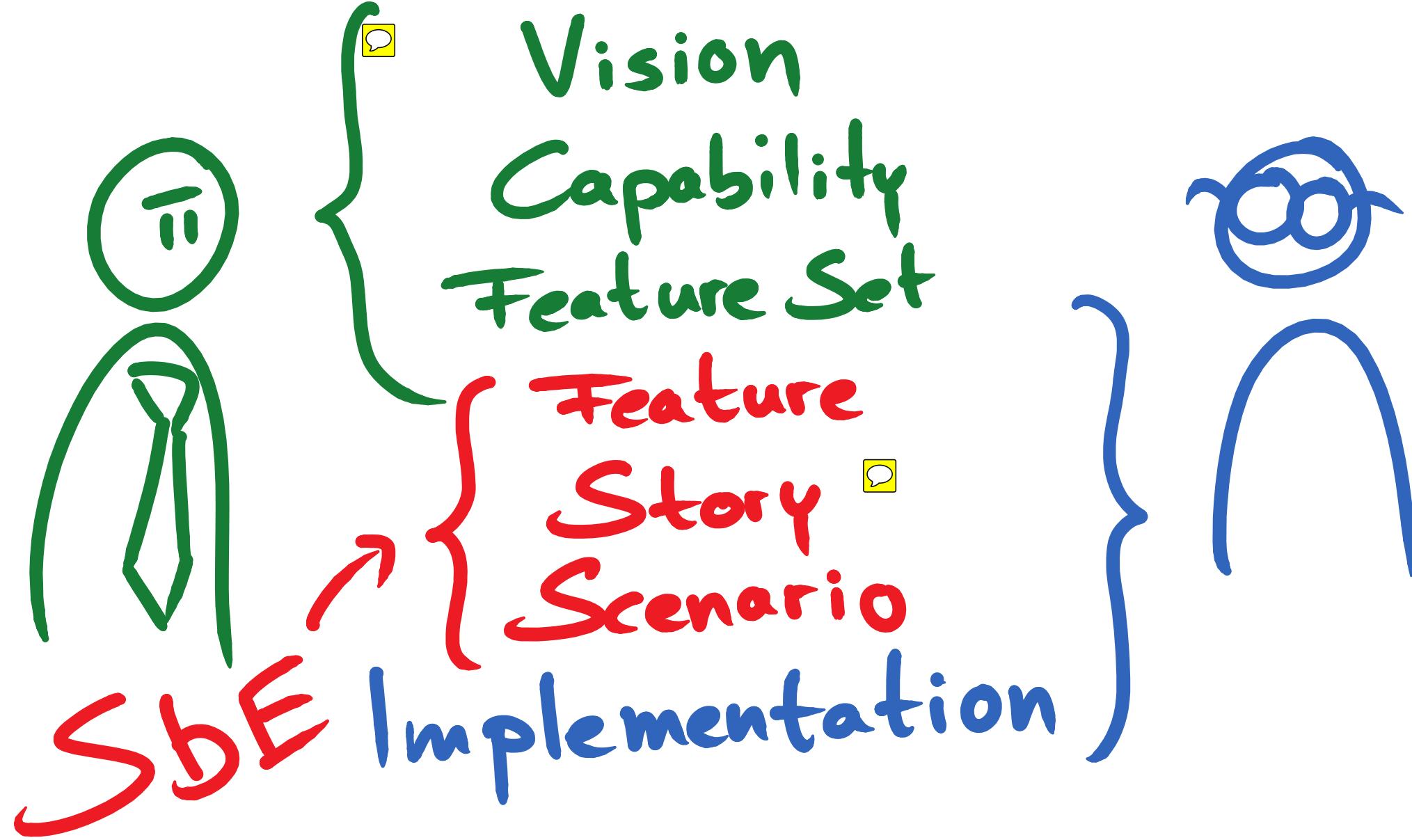
Illustrating using
examples

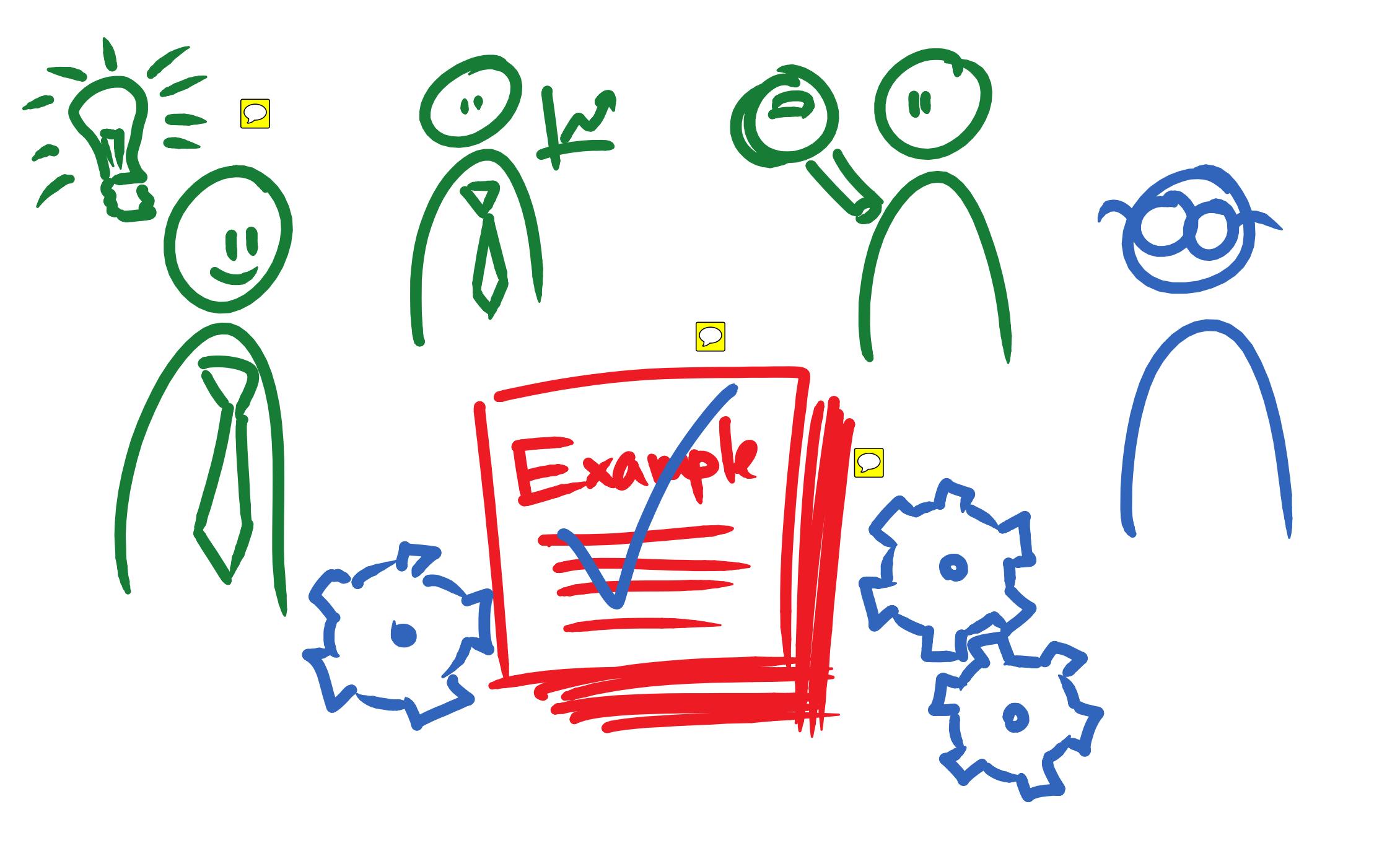
Refining the
specification

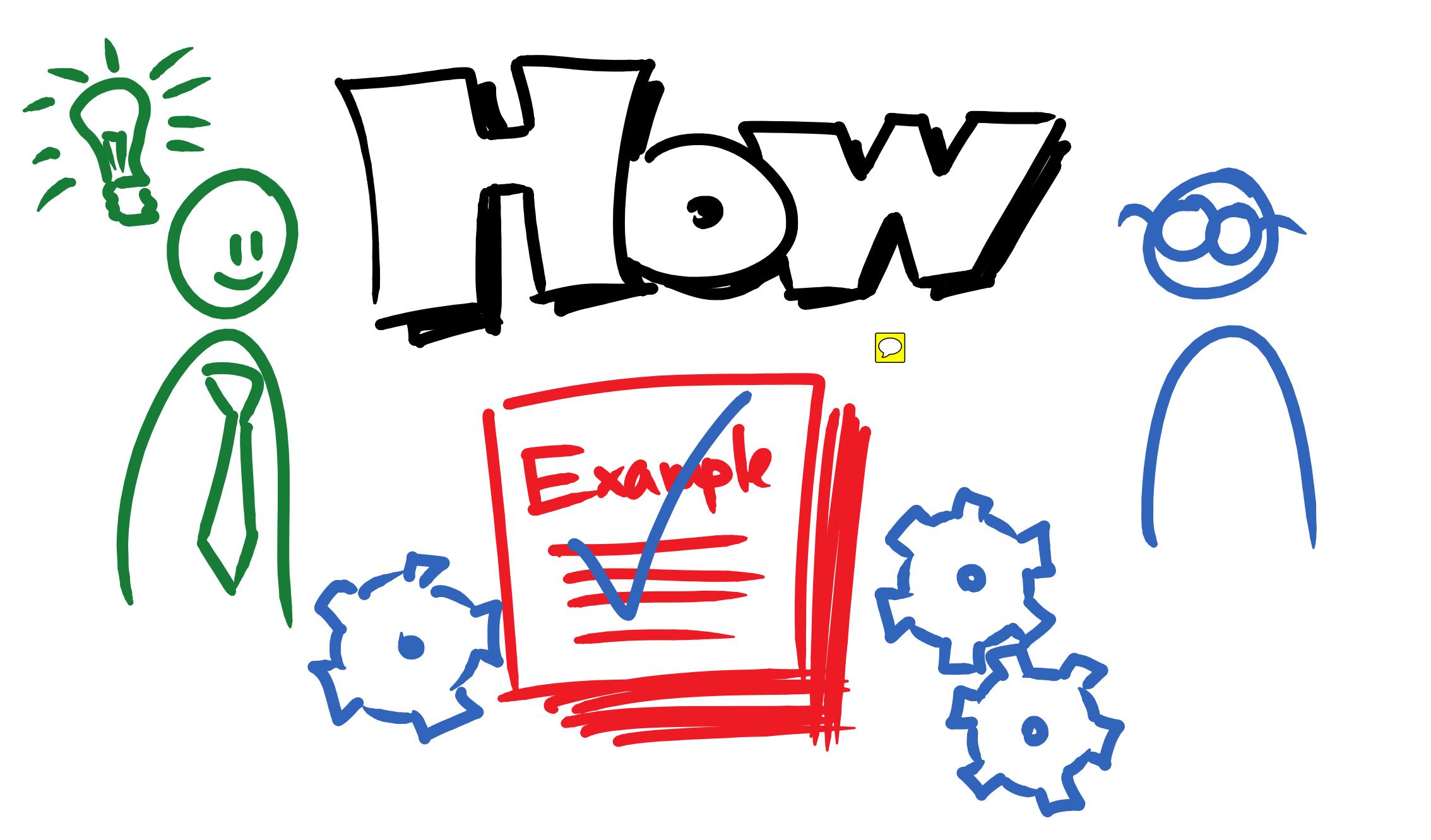
Validating frequently

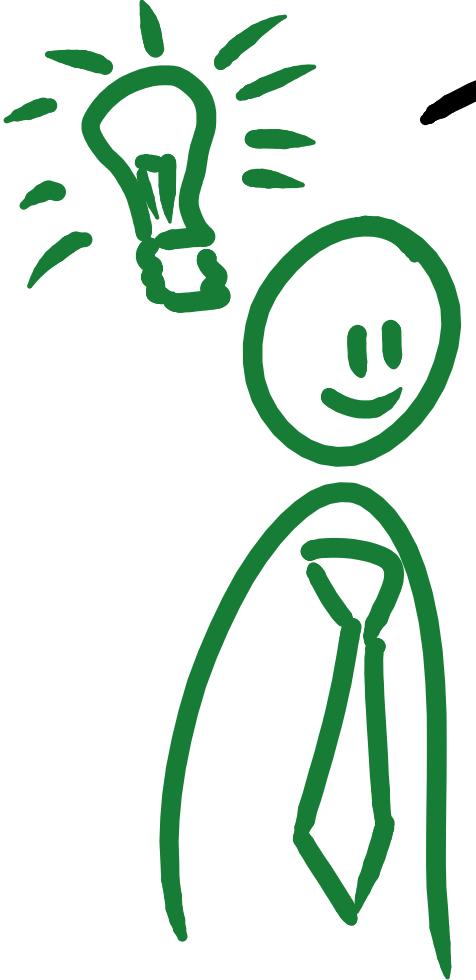
Automating validation
without changing
the specification







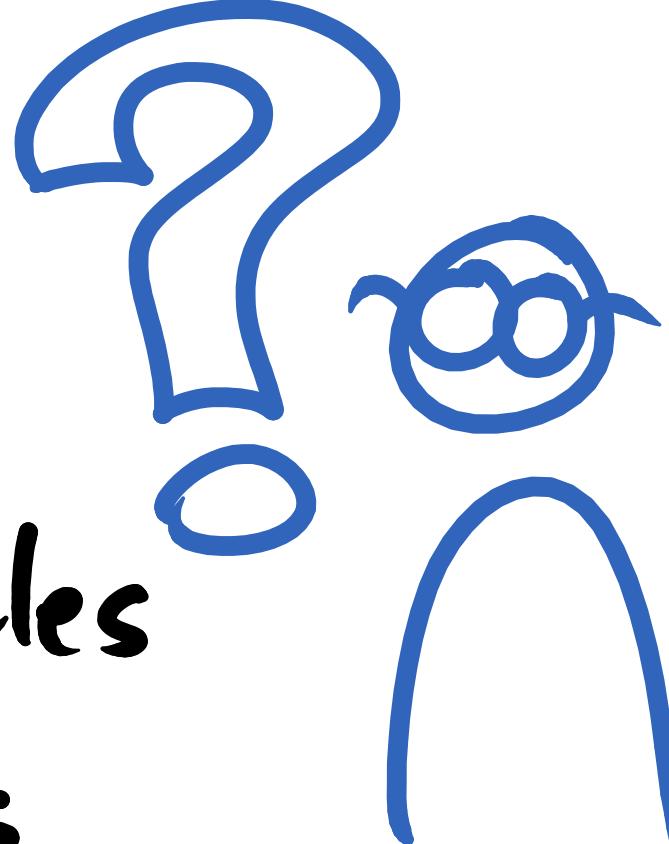




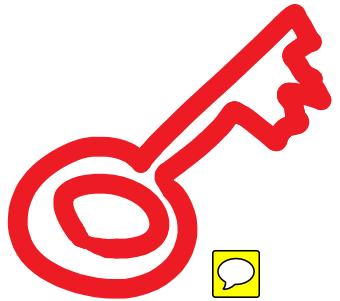
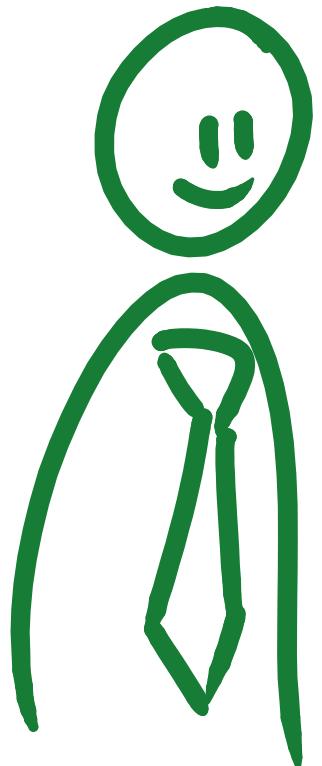
Free delivery!

Only for VIP

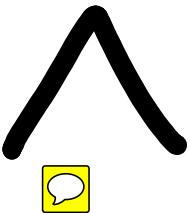
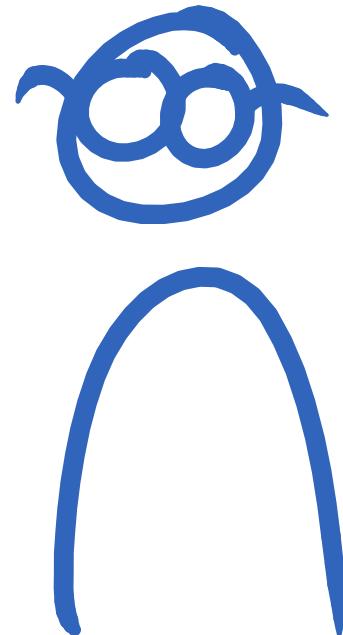
ordering 5 articles
only books

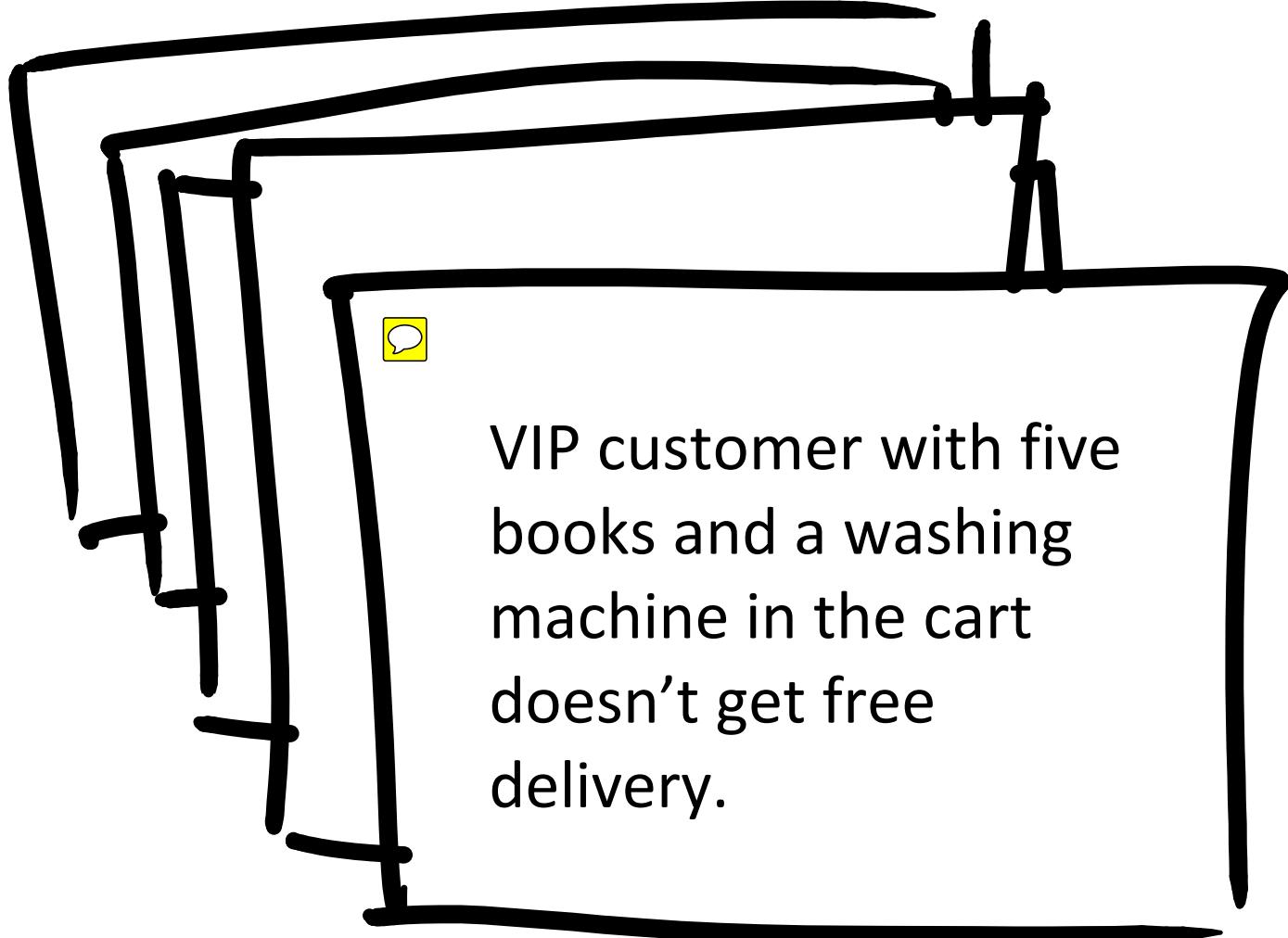
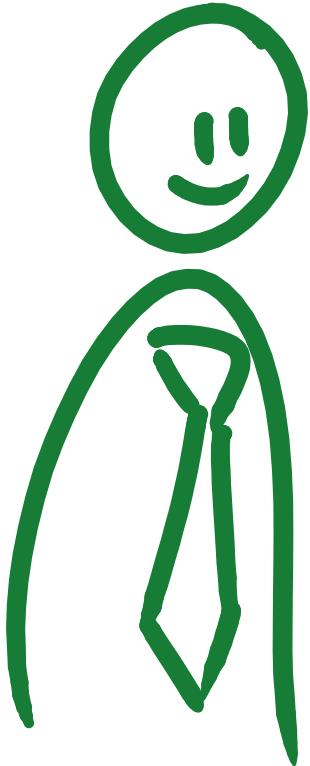


Amanoz.com

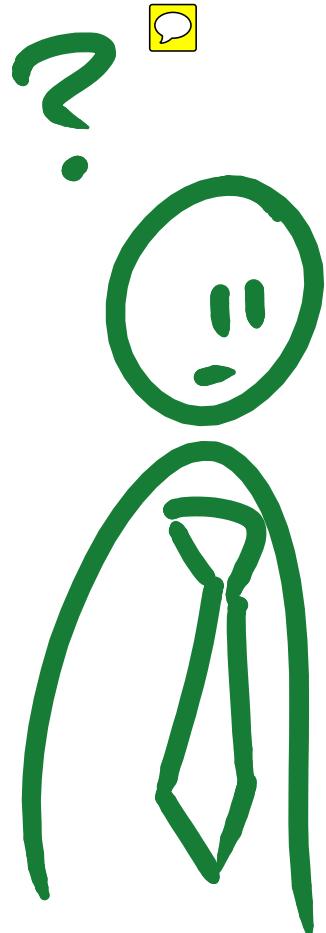


Examples





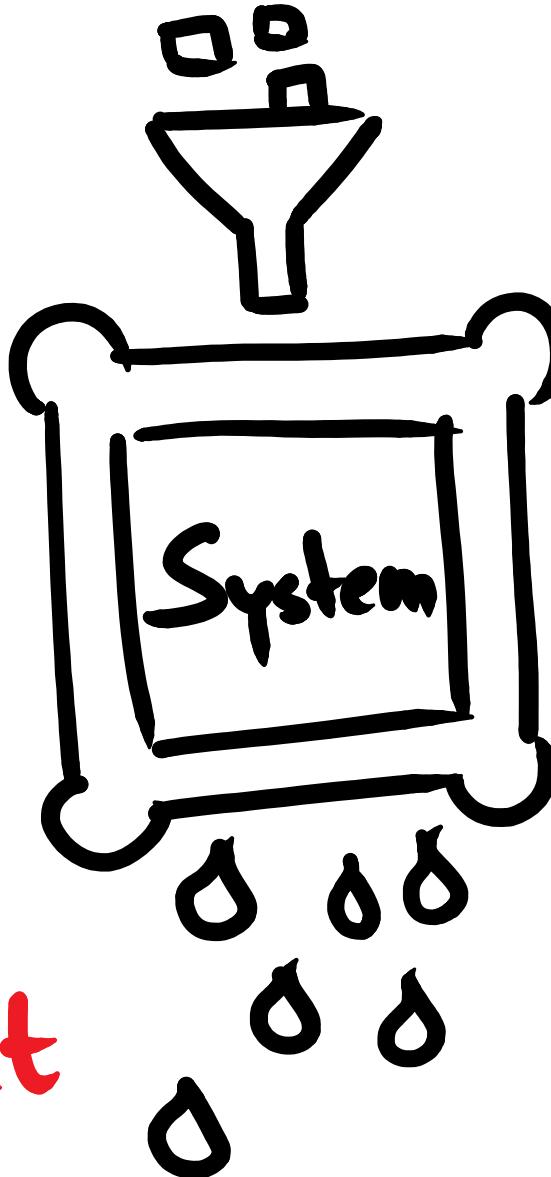
VIP customer with five
books and a washing
machine in the cart
doesn't get free
delivery.



Input

Transformation

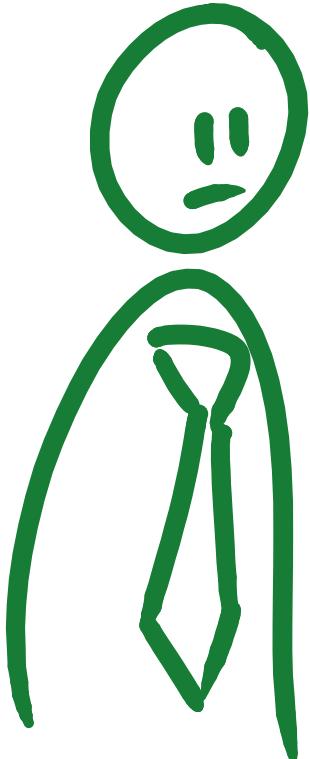
Output



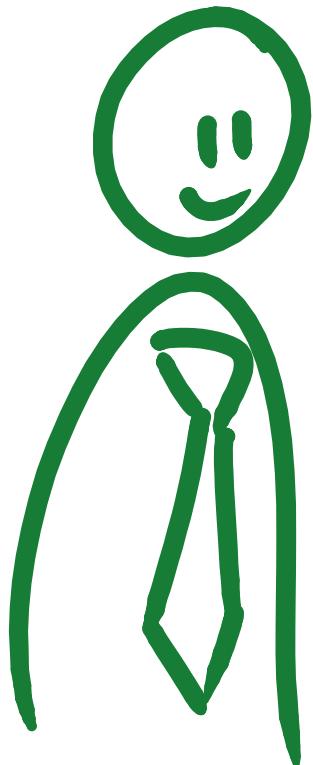
Pre
Condition

Action

Post
Condition



Customer	Order	Delivery
VIP	5 books	free
VIP	4 books	not
Reg	10 books	not
VIP	5 TV	not
VIP	5 books, 1 TV	not

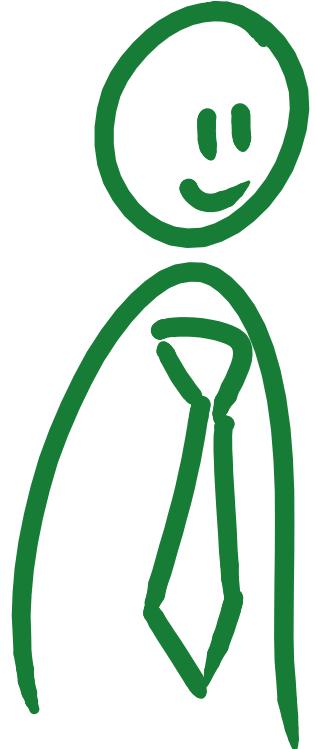


Sentences in ubiquitous language

Pre → "Given..."

Action → "When..."

Post → "Then ... should..."



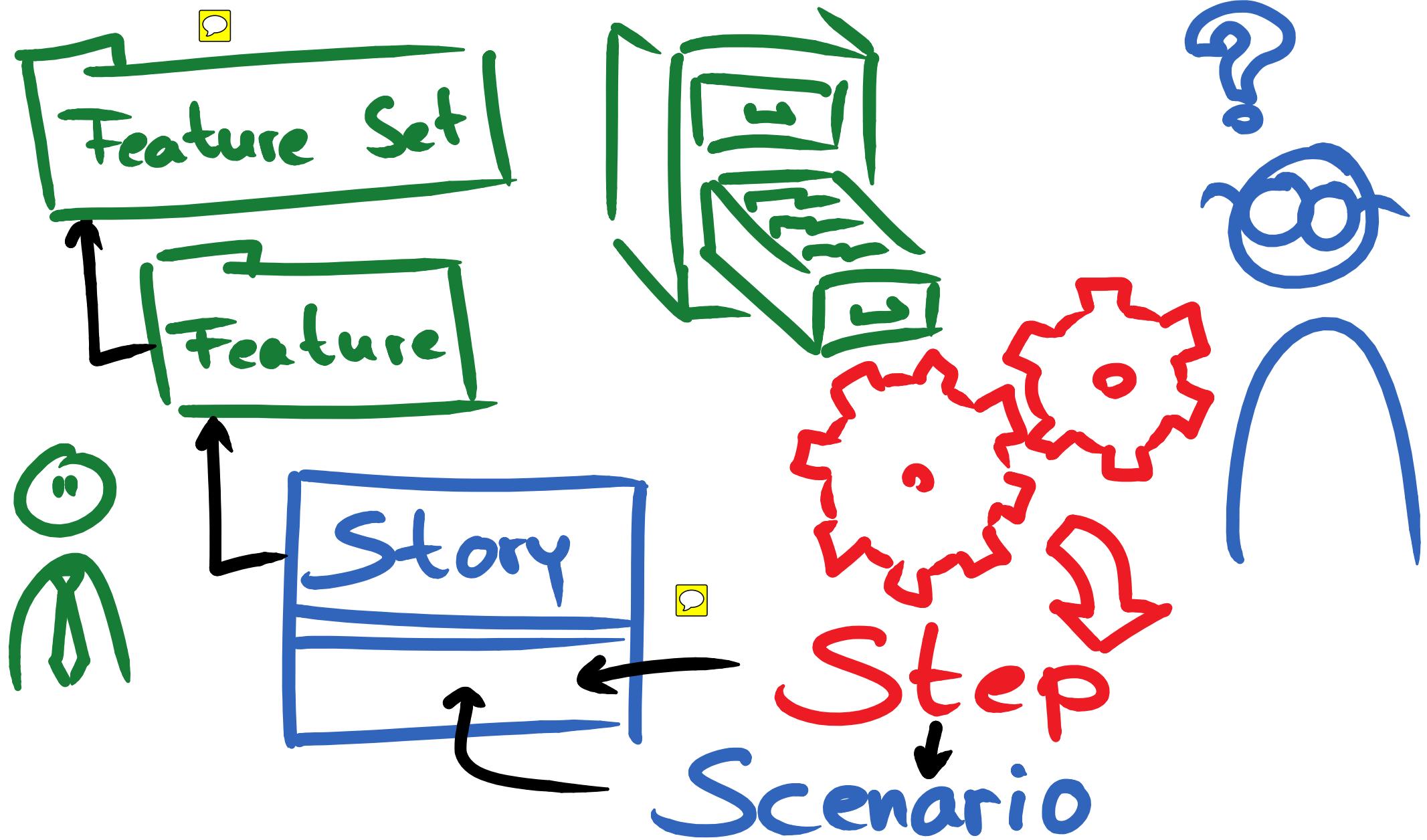
Given I am a VIP customer

Given I have 5 books in my basket

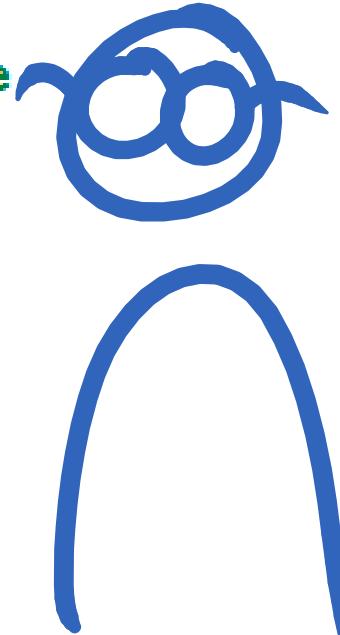
When I check the delivery options

Then delivery should be free

Steps ↑



```
class FreeDeliveryToVipCustomers extends TestCase {  
  
    function story() {  
        return "In order to create incentives to become  
        a VIP customer, I want to provide free  
        delivery for VIPs";  
    }  
  
    function scenarioVipWithFiveBooks() {  
        $this->givenIAmAVipCustomer();  
        $this->givenIHave_BooksInMyBasket(5);  
  
        $this->whenICheckMyDeliveryOptions();  
  
        $this->thenTheDeliveryShouldBeFree();  
    }  
}
```



Code,
please

```
function givenIAmAVipCustomer() {  
    $this->customer = new Customer();  
    $this->customer->setVip(true);  
}
```

Fake it

```
function givenIHave_BooksInMyBasket($number) {  
    $this->basket = new Basket();  
    for ($i=0; $i<$number; $i++) {  
        $this->basket->getItems()->put(new Book());  
    }  
}
```

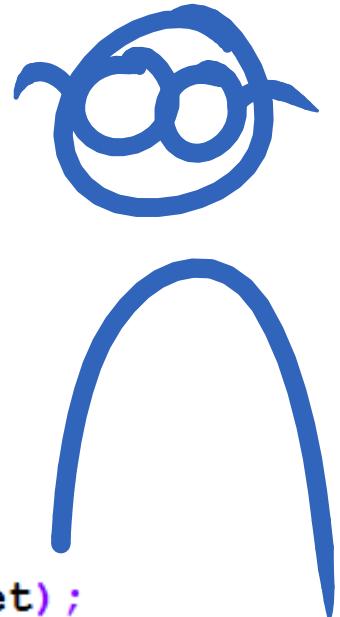


Do it

```
function whenICheckMyDeliveryOptions() {  
    $delivery = new DeliveryManager($this->customer, $this->basket);  
    $this->isFree = $delivery->isDeliveryFree();  
}
```

```
function thenTheDeliveryShouldBeFree() {  
    $this->assertTrue($this->isFree);  
}
```

Check it

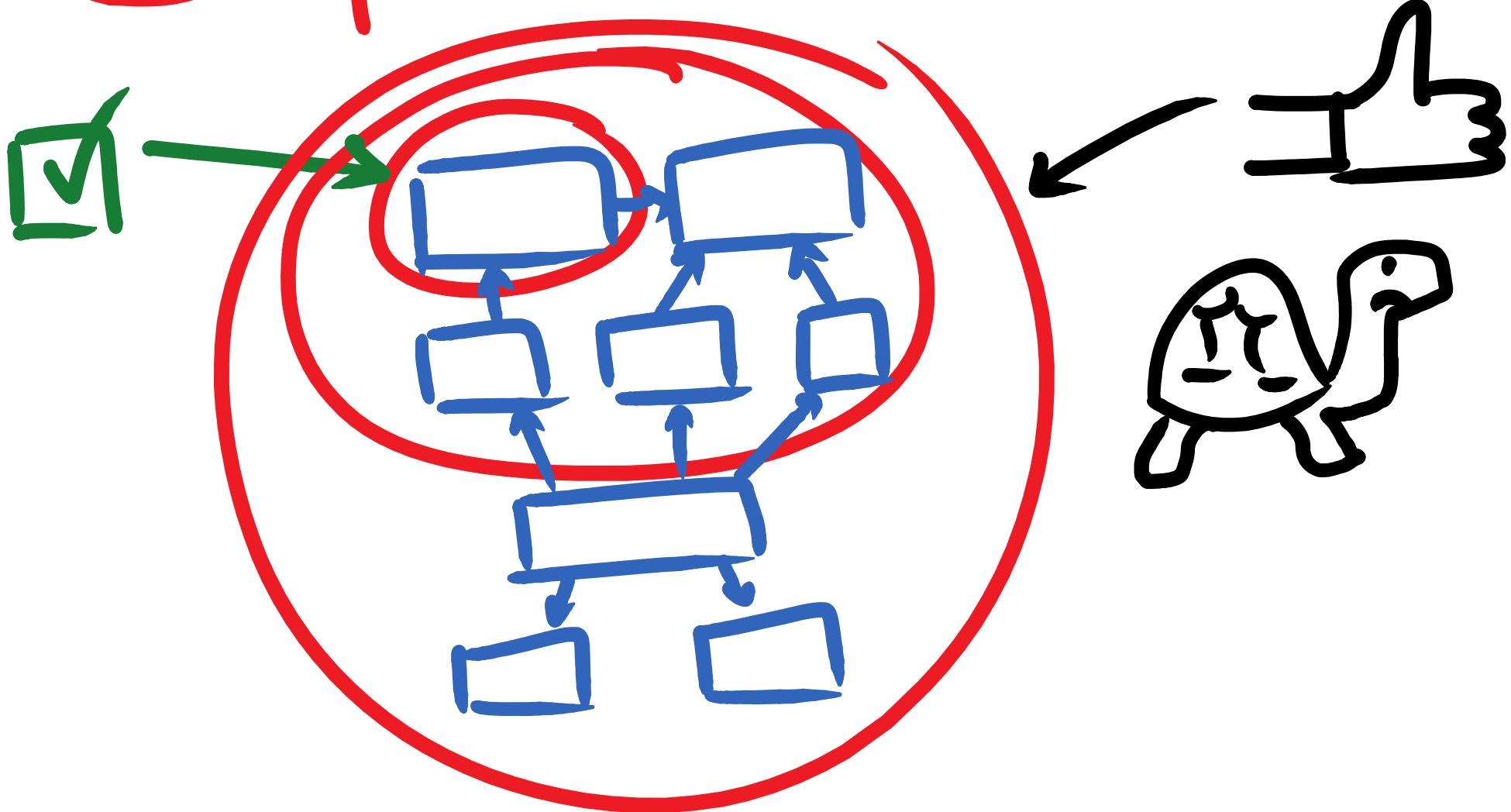


That's All Folks

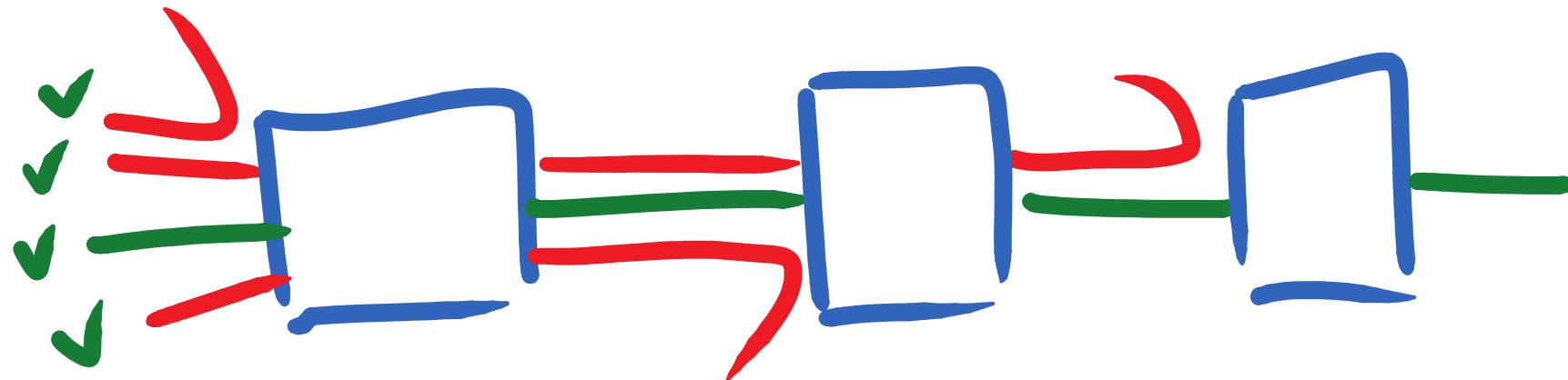


The text "That's All Folks" is written in a stylized, hand-drawn font. "That's All" is at the top in green, "Folks" is at the bottom in green, and "Reality" is in the center in red. A black curved line connects "That's All" to "Folks". A red arrow points from "Reality" towards the right. Above the cowboy's head, there is a yellow speech bubble.

Scope

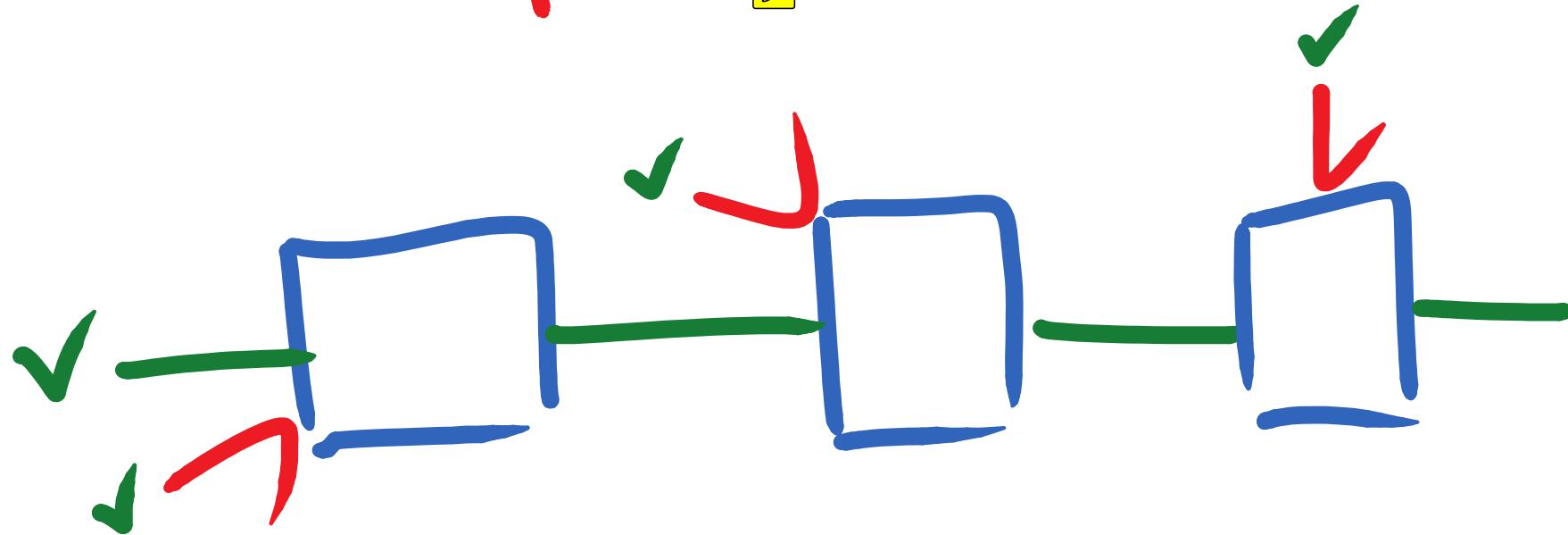


Scope



$$3 \times 3 \times 3 = 27$$

Scope



$$3 + 3 + 3 = 9$$

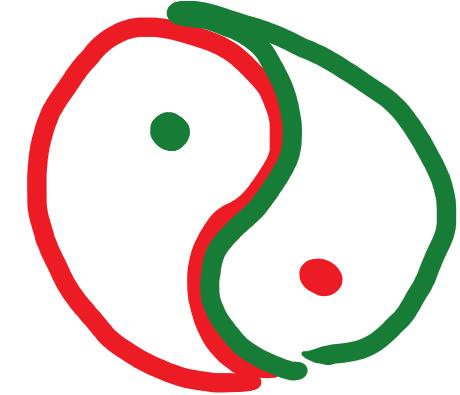
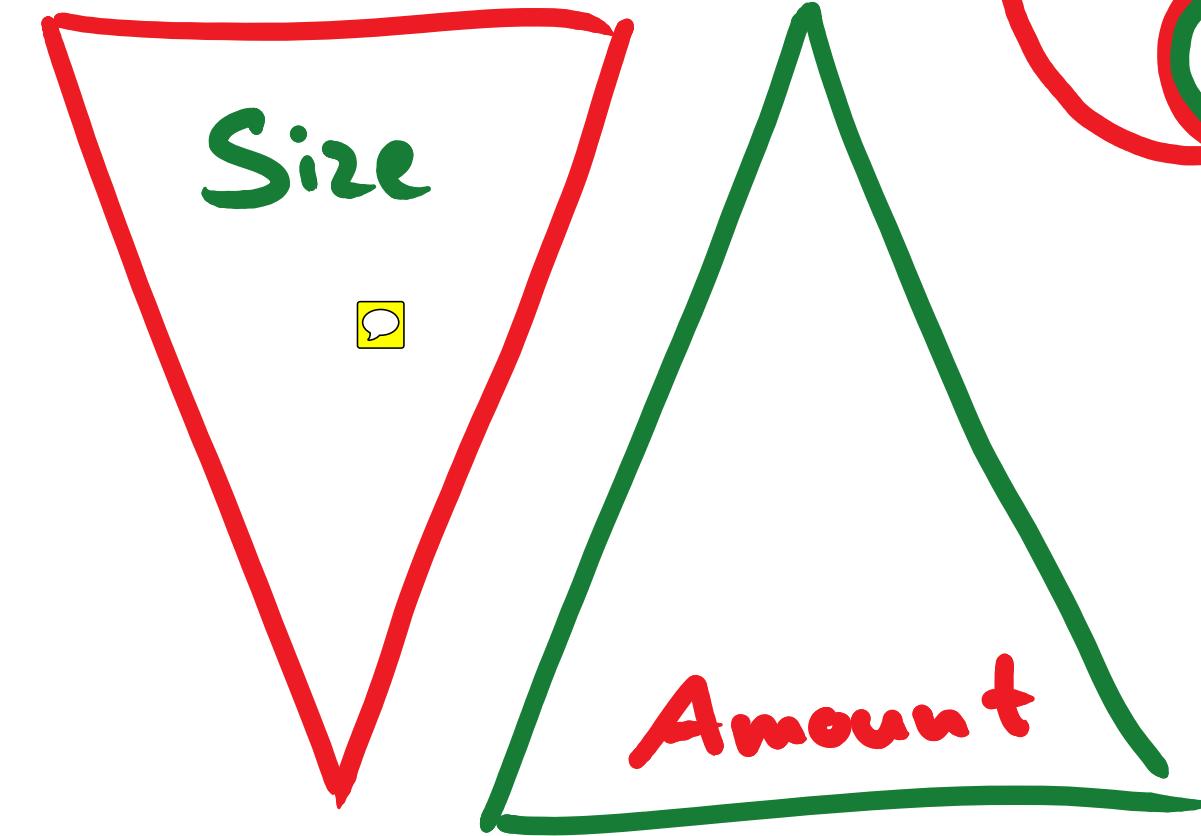
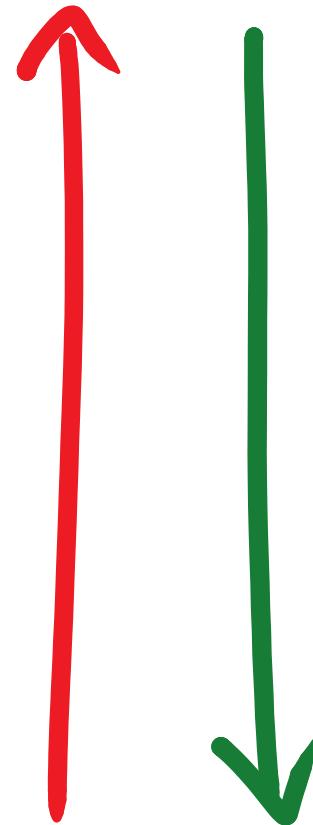
Scope

Balance

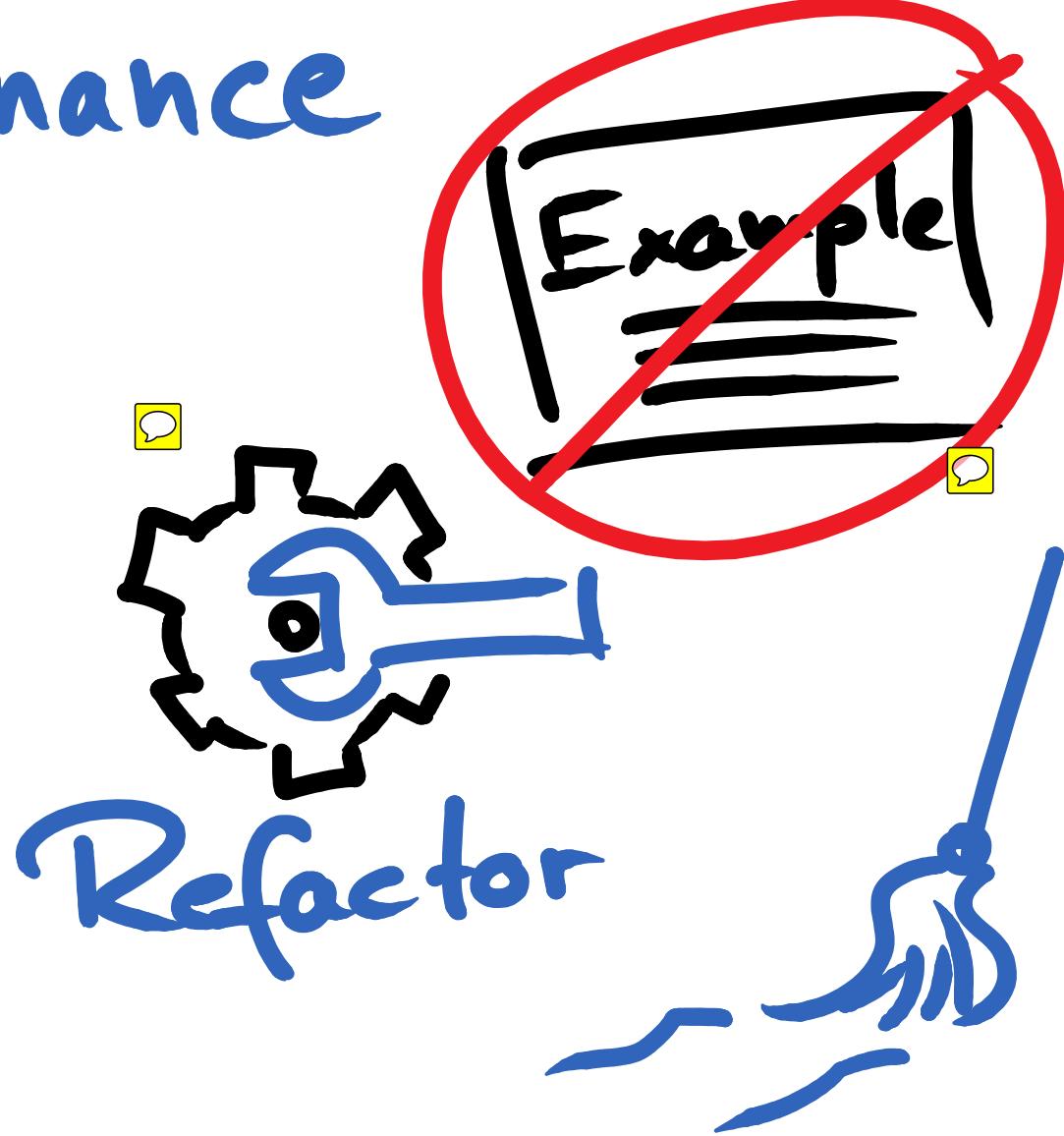
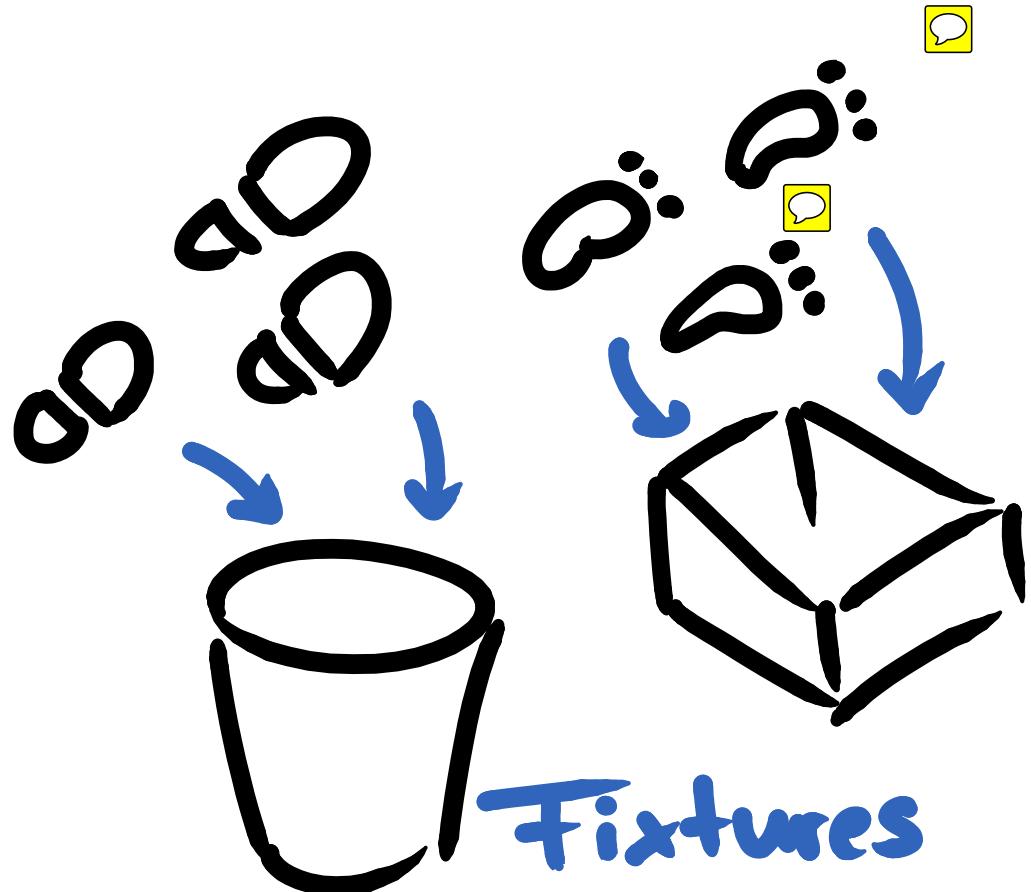
Size

Amount

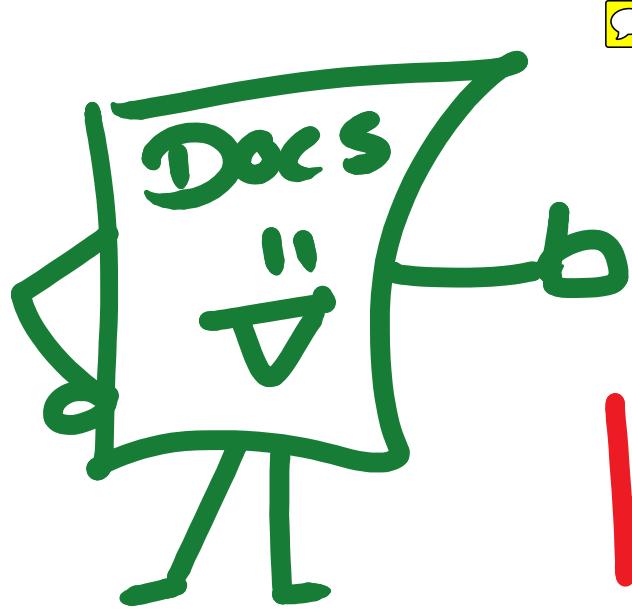
Optimization



Maintanance

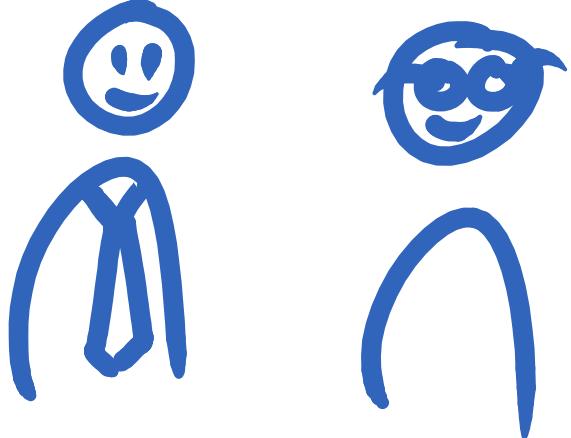






Does it work?

How does it work?



Single source of
truth accessible
for everyone

More on SbE the book



<http://specificationbyexample.com/>

the beginning

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



<http://skillsmatter.com/podcast/agile-testing/how-to-sell-bdd-to-the-business>

very good talk

More besides SbE

Read the book!

<http://www.clean-code-developer.de/>

old but gold

<http://www.extremeprogramming.org/>

<http://theleanstartup.com/>

stop waste

rtens.org