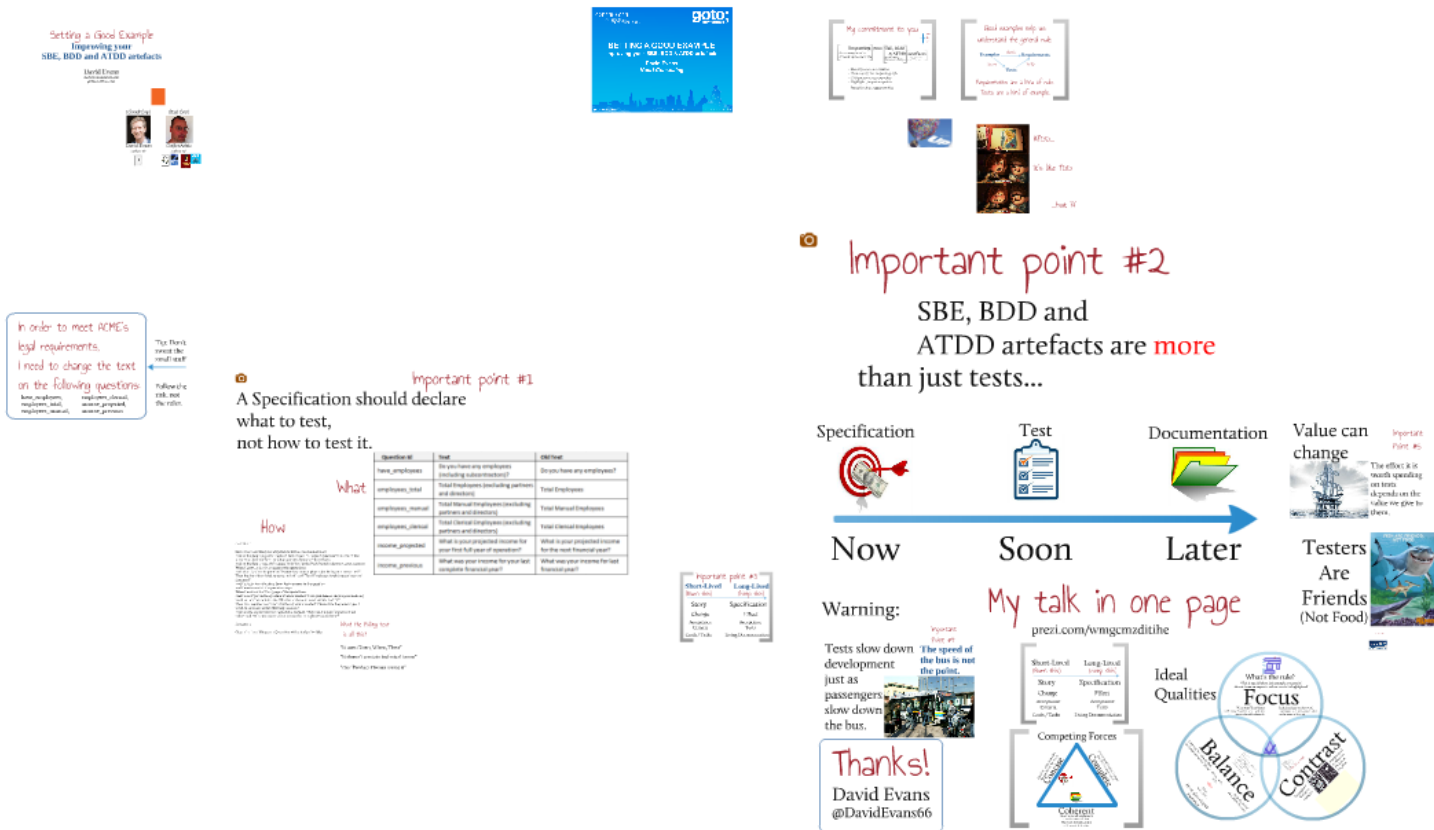


# Improving your SBE, BDD & ATDD artefacts



# David Evans

# SETTING A GOOD EXAMPLE

## Improving your SBE, BDD & ATDD artefacts

David Evans  
*Neuri Consulting*



# My commitment to you

Shu  
Ha  
Ri

## Improving your SBE, BDD & ATDD artefacts

- Increasing the value
- Extending the useful life

Specification by Example  
Behaviour-Driven Development  
Acceptance Test Driven Development

- Cucumber / SpecFlow scenarios & feature files
- Fitnesse pages & test tables
- Executable specifications
- Examples on a whiteboard or in a document

- Identify common mistakes
- Share my tips for improving style
- Critique some real examples
- Highlight 5 important points

 Pause for photo opportunities

# Improving

- Increasing the value
- Extending the useful life



# SBE, BDD & ATDD

Specification by Example

Behaviour-Driven Development

Acceptance Test Driven Development

# artefacts

- Cucumber / SpecFlow scenarios & feature files
- Fitnesse pages & test tables
- Executable specifications
- Examples on a whiteboard or in a document

# My commitment to you

Shu  
Ha  
Ri

## Improving your SBE, BDD & ATDD artefacts

- Increasing the value
- Extending the useful life

Specification by Example  
Behaviour-Driven Development  
Acceptance Test Driven Development

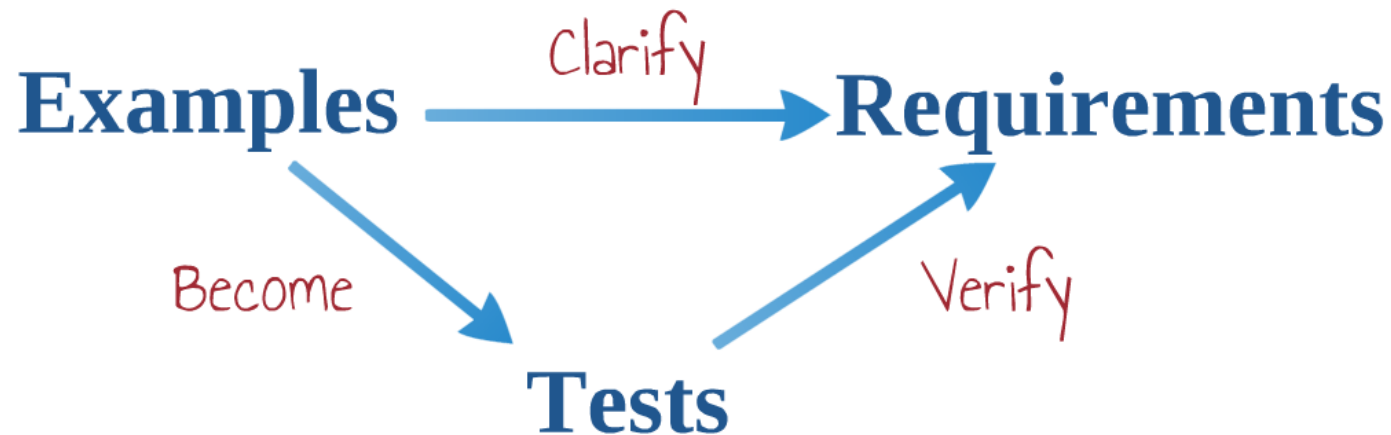
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- Examples on a whiteboard or in a document

- Identify common mistakes
- Share my tips for improving style
- Critique some real examples
- Highlight 5 important points

 Pause for photo opportunities



Good examples help us understand the general rule.



Requirements are a kind of rule.

Tests are a kind of example.



Disney · PIXAR

# UP



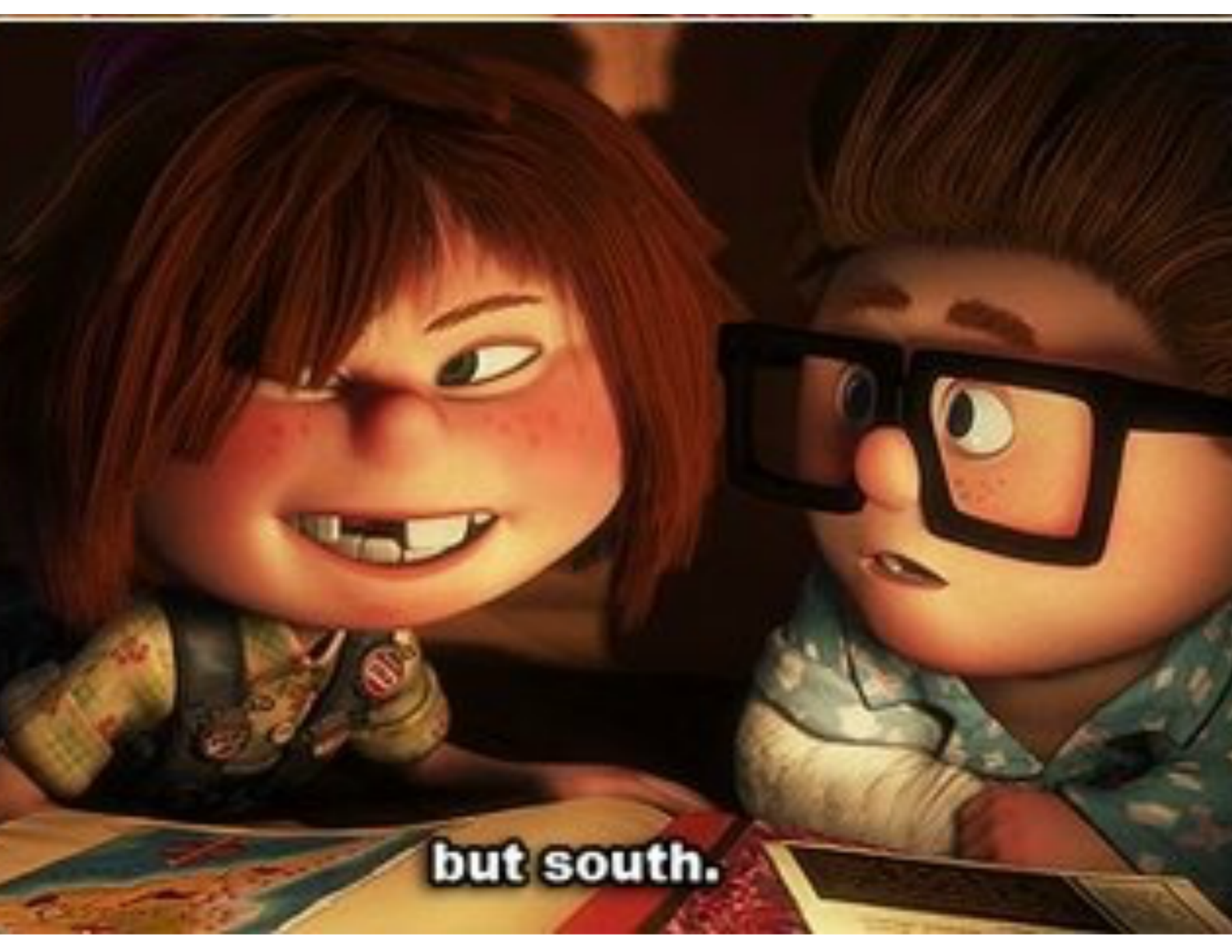


**South America**



**It's like America**





**but south.**





ATDD...



it's like TDD



...but 'A'

# ATDD artefacts are just tests...

## Test



## Scenario: 1

Given that I am filling out a Quotation with an Accountant trade

And on the Step 1 page of the quote I have chosen "1-2 years in business" from the "How many years have you been running your own business?" drop-down

And on the Step 2 page of the quote I tick "yes" to the Professional indemnity cover question

When I arrive at the Step 3 page of the quote form

And select "yes" to the question "Do you have any employees (including subcontractors)?"

Then the drop down label appears, and will read "Total Employees (excluding partners and directors)"

And I select 1 from the drop down list in answer to the question

And I continue with the quotation steps

When I arrive at the Step 5 page of the quote form

And I select "yes" to the question which is worded: "Have you done or do you plan to do any work on contracts outside the UK or for customers based outside the UK?"

Then I am required to answer a further question worded: "Please state the percentage of work on contracts in the following locations:"

And need to answer two more questions, worded: "How much is your largest contract value?" and "What was your income for your last complete financial year?"

## Scenario: 2

Given that I am filling out a Quotation with a trade of Builder

What the F  
is all this?

What the Failing test  
is all this?

"It uses Given, When, Then"

"It doesn't contain technical terms"

"Our Product Owner wrote it"

In order to meet ACME's  
legal requirements,  
I need to change the text  
on the following questions:

have\_employees,  
employees\_total,  
employees\_manual,

employees\_clerical,  
income\_projected,  
income\_previous

ements,

change the text

llowing questions:

employees\_clerical,  
income\_projected,  
income\_previous  
al,

Tip: Don't  
sweat the  
small stuff



Follow the  
risk, not  
the rules.

In order to meet ACME's  
legal requirements,  
I need to change the text  
on the following questions:

have\_employees,  
employees\_total,  
employees\_manual,

employees\_clerical,  
income\_projected,  
income\_previous



Question Id	Text	Old Text
have_employees	Do you have any employees (including subcontractors)?	Do you have any employees?
employees_total	Total Employees (excluding partners and directors)	Total Employees
employees_manual	Total Manual Employees (excluding partners and directors)	Total Manual Employees
employees_clerical	Total Clerical Employees (excluding partners and directors)	Total Clerical Employees
income_projected	What is your projected income for your first full year of operation?	What is your projected income for the next financial year?
income_previous	What was your income for your last complete financial year?	What was your income for last financial year?





Important point #1

A Specification should declare  
what to test,  
not how to test it.

What

How

Scenario: 1

Given that I am filling out a Quotation with an Accountant trade  
And on the Step 1 page of the quote I have chosen "1-2 years in business" from the "How many years have you been running your own business?" drop-down  
And on the Step 2 page of the quote I tick "yes" to the Professional indemnity cover question  
When I arrive at the Step 3 page of the quote form  
And select "yes" to the question "Do you have any employees (including subcontractors)?"  
Then the drop down label appears, and will read "Total Employees (excluding partners and directors)"  
And I select 1 from the drop down list in answer to the question  
And I continue with the quotation steps  
When I arrive at the Step 5 page of the quote form  
And I select "yes" to the question which is worded: "Have you done or do you plan to do any

Question Id	Text
have_employees	Do you have any employees (including subcontractors)?
employees_total	Total Employees (excluding partners and directors)
employees_manual	Total Manual Employees (excluding partners and directors)
employees_clerical	Total Clerical Employees (excluding partners and directors)
income_projected	What is your projected income for your first full year of operation?
income_previous	What was your income for your last complete financial year?

# ATDD artefacts are just tests...

## Test





# Important point #2

SBE, BDD and  
ATDD artefacts are **more**  
than just tests...

Specification



Test



Documentation



Now

Soon

Later



# Important point #3

**Short-Lived**

(Burn this)

**Long-Lived**

(Keep this)



Story

Specification

Change

Effect

Acceptance  
Criteria

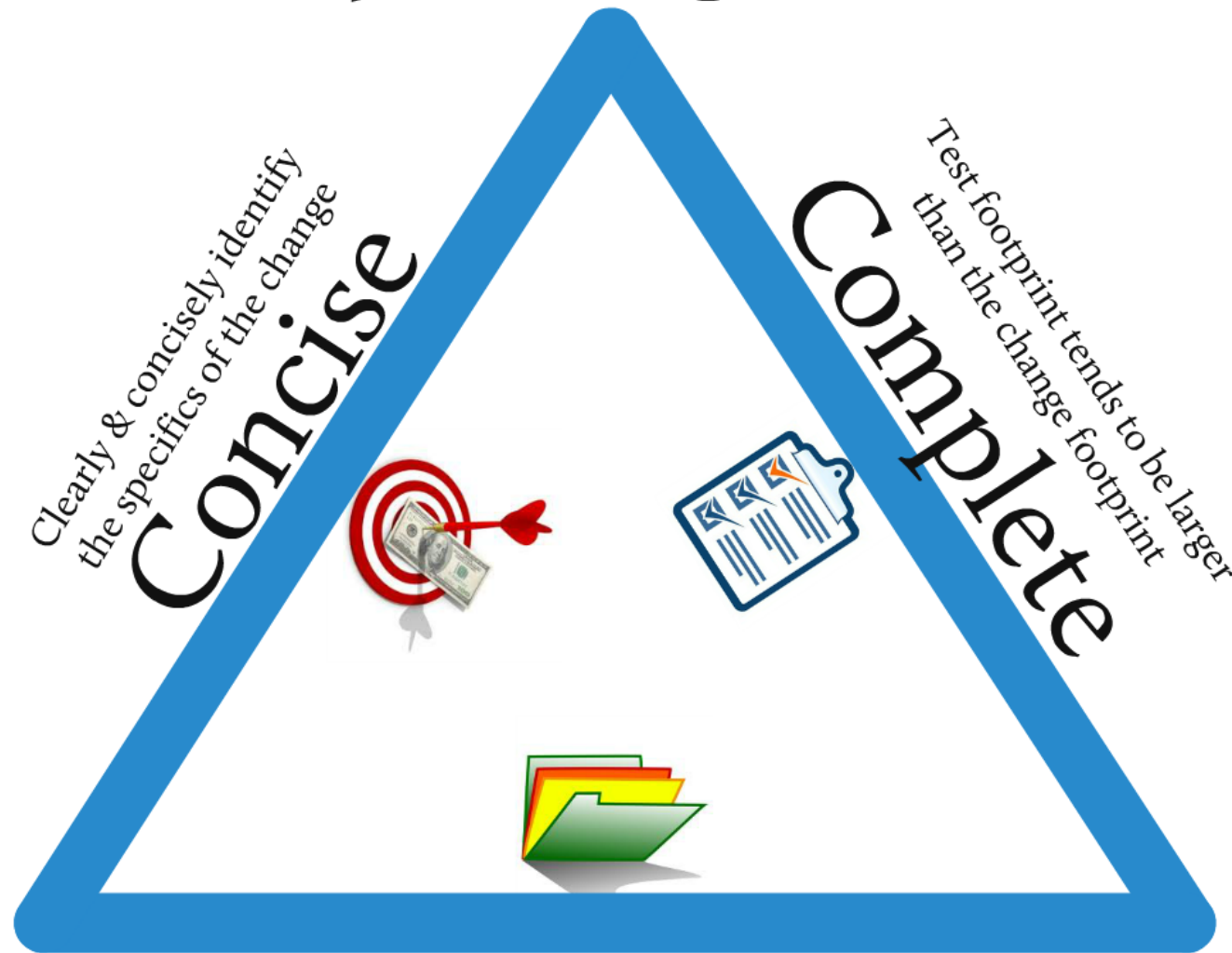
Acceptance  
Tests

Cards / Tasks

Living Documentation



# Competing Forces



*Clearly & concisely identify  
the specifics of the change*

**Concise**

**Complete**

*Test footprint tends to be larger  
than the change footprint*

**Coherent**

Needs to be self-explanatory  
after the conversation.  
The level of detail needed  
will vary with the risk.

Clearly & concisely identify  
the specifics of the change

# Concise



Test footprint tends to be larger  
than the change footprint

# Complete



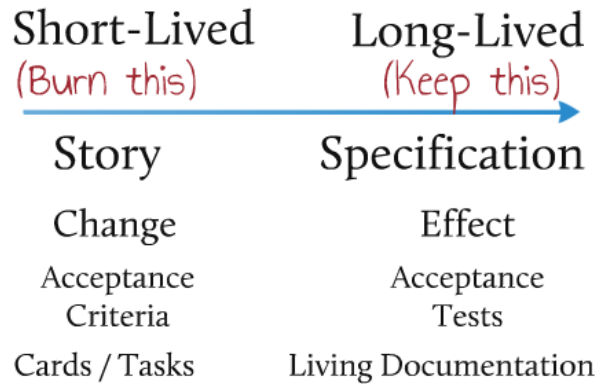


# Coherent

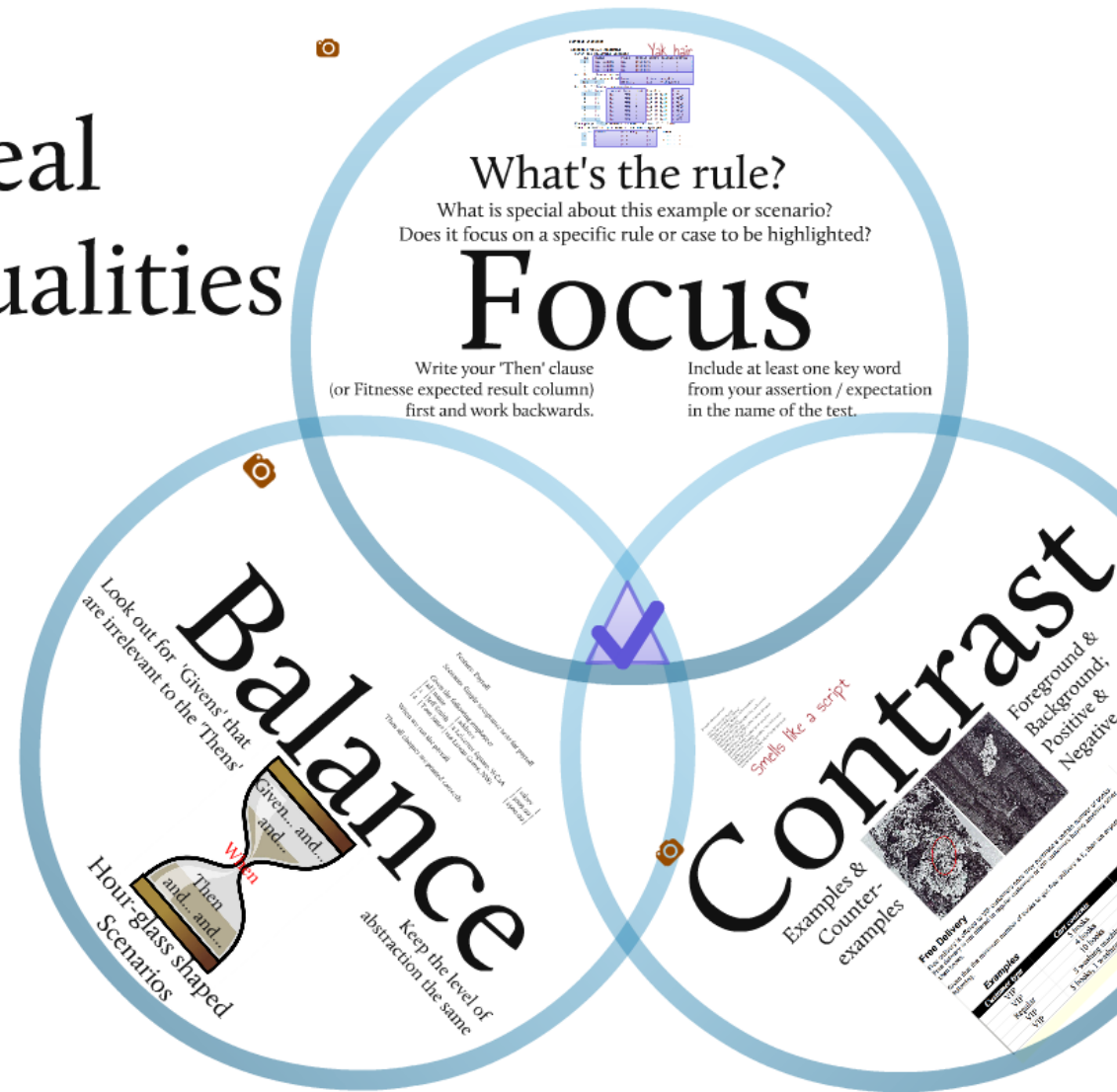
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The level of detail needed  
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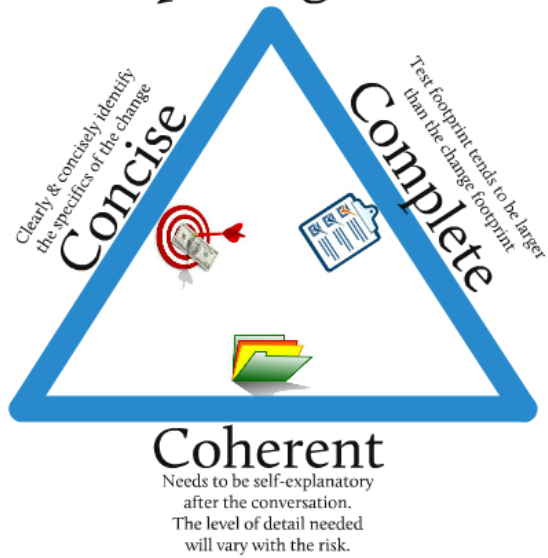




# Ideal Qualities



## Competing Forces



Feature: Payroll

Scenario: Simple acceptance tests for payroll

Given the following employees

id	name	address	salary
1	Jeff Smith	2 Leicester Square, WC2A	3005.00
2	Tom Jones	110 Lisson Grove, NW1	2500.00

When we run the payroll

Then all cheques are printed correctly

# Balance

Look out for 'Givens' that  
are irrelevant to the 'Thens'

Keep the level of  
abstraction the same



Feature: Payroll

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Keep the level of  
abstraction the same

Hour-glass shaped  
Scenarios

11	10	EUR	X	01.01.2010
14	10	EUR	P	04.01.2010
17	10	EUR	S	07.01.2010

# What's the rule?

What is special about this example or scenario?  
Does it focus on a specific rule or case to be highlighted?

# Focus

Write your 'Then' clause  
(expected result column)  
first and work backwards.

Include at least one key  
from your assertion / e.  
in the name of the test.

Feature: Statement

Scenario: weekly statement

Given the following accounts

id	name	type	credit limit	balance	status	
1	XD_DIRECT	XD	10000000	0	0	
2	XD_DIRECT	XD	10000000	0	0	
3	XD_DIRECT	XD	10000000	0	0	

And the following users

user id	account id	name	risk	reg_date	
187	1	M Smith	x1	01.09.2009	

And the following transactions

txid	acct	amount	ccy	stat	tx date	gw	
1	1	10	EUR	X	01.01.2010	G1_x	
2	2	10	EUR	X	02.01.2010	EPAY	
3	3	10	EUR	X	03.01.2010	G2_x	
4	1	10	EUR	P	04.01.2010	EPAY	
5	2	10	EUR	X	05.01.2010	EPAY	
6	3	10	EUR	X	06.01.2010	MC_1	
7	1	10	EUR	S	07.01.2010	XXX	

When player 187 statement is executed for 07.01.2010

Then the following transactions are displayed

txid	amount	currency	stat	date	
1	10	EUR	X	01.01.2010	
4	10	EUR	P	04.01.2010	
7	10	EUR	S	07.01.2010	

Yak hair



Feature: Statement

Scenario: weekly statement

Given the following accounts

id	name	type	credit limit	balance	status
1	XD_DIRECT	XD	10000000	0	O
2	XD_DIRECT	XD	10000000	0	O
3	XD_DIRECT	XD	10000000	0	O

And the following users

user id	account id	name	risk	reg_date
137	1	M Smith	x1	01.09.2009

And the following transactions

txid	acct	amount	ccy	stat	tx date	gw
1	1	10	EUR	X	01.01.2010	G1_x
2	2	10	EUR	X	02.01.2010	EPAY
3	3	10	EUR	X	03.01.2010	G2_x
4	1	10	EUR	P	04.01.2010	EPAY
5	2	10	EUR	X	05.01.2010	EPAY
6	3	10	EUR	X	06.01.2010	MC_1
7	1	10	EUR	S	07.01.2010	XXX

When player 137 statement is executed for 07.01.2010

Then the following transactions are displayed

txid	amount	currency	stat	date
1	10	EUR	X	01.01.2010
4	10	EUR	P	04.01.2010
7	10	EUR	S	07.01.2010

Yak hair

# What's the rule?

What is special about this example or scenario?  
Does it focus on a specific rule or case to be highlighted?

# FOCUS

Write your 'Then' clause  
(or Fitness expected result column)  
first and work backwards.

Include at least one key word  
from your assertion / expectation  
in the name of the test.



nce

are printed correctly

e payroll

1101 Lisson Grove, NW1

2 Leicester Square, WC2A

address

ing employees

le acceptance tests for payroll

11



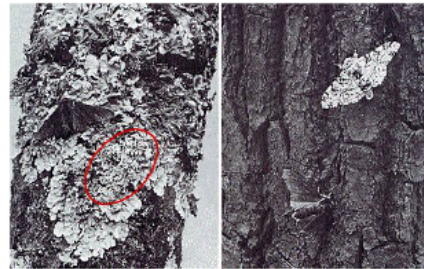
Scenario: Bonus discount  
Given the user Mike, login  
When the user clicks on "Bonus"  
and the user enters "Discount" in the search box  
Then the page is "Discount"  
and the user should see "Find discount" for the first result  
Then the page is "Discount"  
and the user should see "My discount" for the first result  
Then the page is "Discount"  
and the user should see "Discount" in the search box  
and the user should see "Find discount" for the first result  
Then the page is "Discount"  
and the user should see "My discount" for the first result  
Then the page is "Discount"

Smells like a script

one key word  
assertion / expectation  
of the test.

# Contrast

Examples &  
Counter-  
examples



Foreground &  
Background;  
Positive &  
Negative

## Free Delivery

Free delivery is offered to VIP customers once they purchase a certain number of books.  
Free delivery is not offered to regular customers or VIP customers buying anything other than books.

Given that the minimum number of books to get free delivery is 5, then we expect the following:

### Examples

Customer type	Cart contents	Delivery
VIP	5 books	Free
VIP	4 books	Standard
Regular	10 books	Standard
VIP	5 washing machines	Standard
VIP	5 books, 1 washing machine	Standard



## Scenario: Bonus discount

Given the user Mike logs on

When the user clicks on “/home”

And the user enters “Orbital” in the search box

Then the page is “/Artists”

And the user clicks on “Find tickets” for the first result

Then the page is “/Tickets”

And the user clicks on “Buy tickets” for the first result

Then the page is “/Cart”

And the user enters “Gorillaz” in the search box

Then the page is “/Artists”

And the user clicks on “Find tickets” for the first result

Then the page is “/Tickets”

And the user clicks on “Buy tickets” for the first result

Then the discount is 10%

Smells like a s

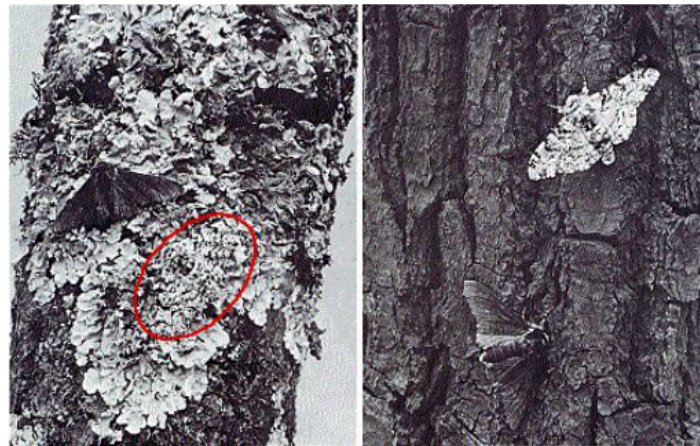


And the user clicks on "Find tickets" for the first result  
Then the page is "/tickets"  
And the user clicks on "Buy tickets" for the first result  
Then the discount is 10%

Smells like a script

# Contrast

Examples &  
Counter-  
examples



Foreground &  
Background;  
Positive &  
Negative

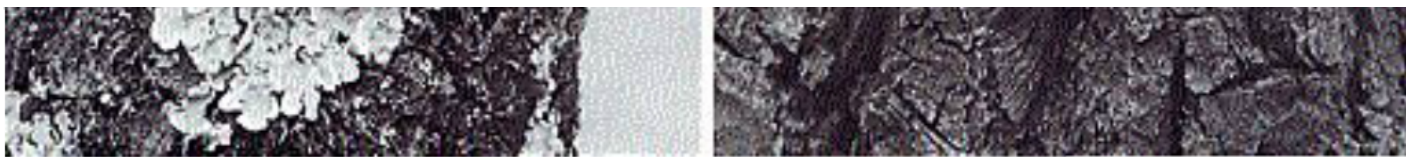
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### *Examples*

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VIP	5 books	Free
VIP	4 books	Standard
Regular	10 books	Standard
VIP	5 washing machines	Standard
VIP	5 books, 1 washing machine	Standard



Yak hair

Yak	Color	Length	Texture	Weight	Value
1	Black	10cm	Coarse	100g	1000
2	Black	10cm	Coarse	100g	1000
3	Black	10cm	Coarse	100g	1000
4	Black	10cm	Coarse	100g	1000
5	Black	10cm	Coarse	100g	1000
6	Black	10cm	Coarse	100g	1000
7	Black	10cm	Coarse	100g	1000
8	Black	10cm	Coarse	100g	1000
9	Black	10cm	Coarse	100g	1000
10	Black	10cm	Coarse	100g	1000



# Ideal Qualities

## What's the rule?

What is special about this example or scenario?  
Does it focus on a specific rule or case to be highlighted?

# Focus

Write your 'Then' clause  
(or Fitness expected result column)  
first and work backwards.

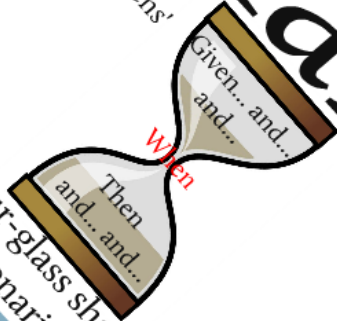
Include at least one key word  
from your assertion / expectation  
in the name of the test.



Look out for 'Givens' that  
are irrelevant to the 'Thens'

# Balance

Hour-glass shaped  
Scenarios



Keep the level of  
abstraction the same

Frame: Payroll  
Scenario: Supply appropriate tests for payroll  
Given the following employees  
1. Name 2. Address 3. Salary  
1. Then Issue 1.4 Address Square WCA  
When we run the payroll  
Then all cheques are printed correctly



# Contrast

Examples &  
Counter-examples

Foreground &  
Background;  
Positive &  
Negative



Free Delivery  
Free delivery is given to VIP customers who buy more than 10 books in a regular order or VIP customers who buy more than 10 books in a regular order.

Examples

Example type

Vip

Regular

Vip

Example type	Car cost	Delivery
Vip	2 books	Free
Regular	4 books	Standard
Vip	10 books	Standard
Vip	5 washing machines	Standard
Vip	5 books 1 washing machine	Standard

Smells like a script

# Warning:

Tests slow down  
development



Important



Point #4

Tests slow down  
development  
just as  
passengers  
slow down  
the bus.

**The speed of  
the bus is not  
the point.**





# Value can change



Important

Point #5



The effort it is worth spending on tests depends on the value we give to them.



Specification



Test



Documentation



Value can change



Now

Soon

Later

Testers  
Are

Friends  
(Not Food)

Warning:

Tests slow down development just as passengers slow down the bus.

**The speed of the bus is not the point.**



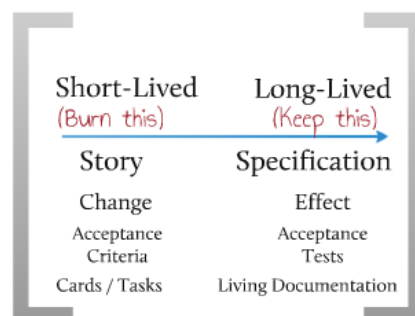
Important Point #4

My talk in one page

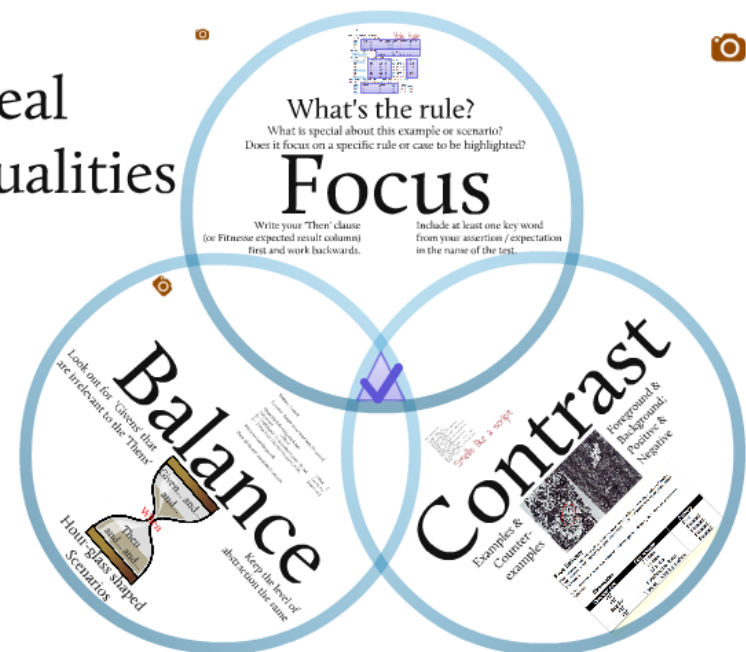
[prezi.com/wmgcmzditihe](https://prezi.com/wmgcmzditihe)

Thanks!

David Evans  
@DavidEvans66

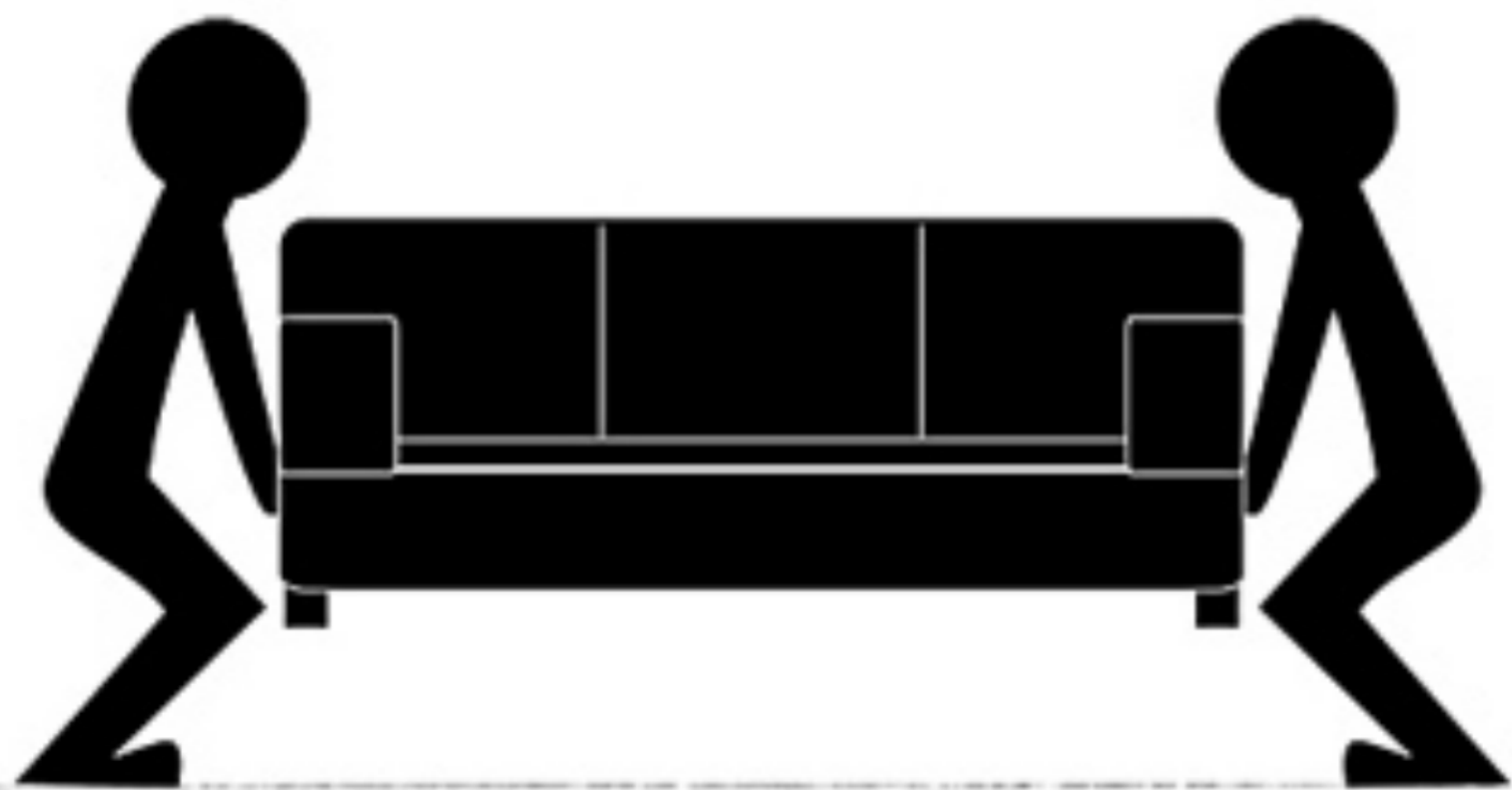


Ideal Qualities



Testers  
Are  
Friends  
(Not Food)





**FRIEND.**

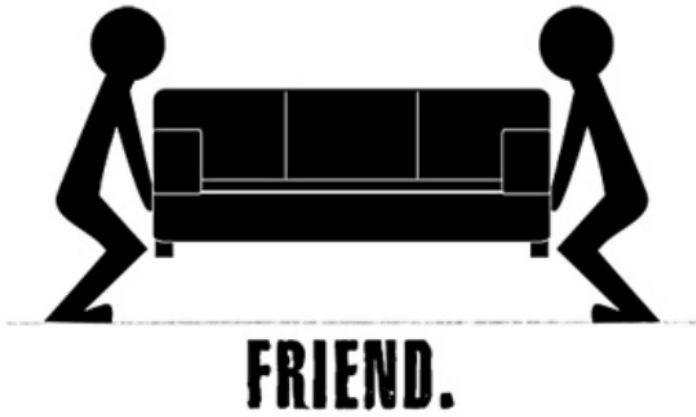


**BEST FRIEND.**

facebook

You have 10,000 friends





What are you?



Thanks!

David Evans

@DavidEvans66

Specification



Test



Documentation



Value can change



Now

Soon

Later

Testers  
Are

Friends  
(Not Food)

Warning:

Tests slow down  
development  
just as  
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**The speed of  
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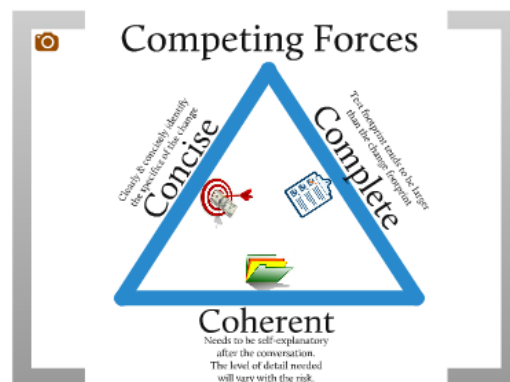
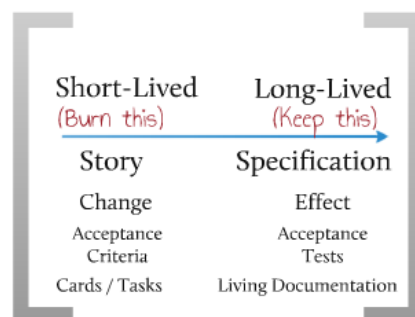
Important  
Point #4

My talk in one page

[prezi.com/wmgcmzditihe](https://prezi.com/wmgcmzditihe)

Thanks!

David Evans  
@DavidEvans66



Ideal  
Qualities

