

Contrasting test automation and BDD

- an “interactions over tools” perspective

Seb Rose

Twitter: @sebrose

Blog: <https://cucumber.io/blog/>

E-mail: seb.rose@smartbear.com

WARNING

This presentation includes
interactive segments.

There will be polls, breakout rooms,
and online whiteboards.

Agenda

Interactions over tools

Test automation

Behaviour-driven development

Compare and contrast

Shift left

Confusion

Wrap-up

POLL

How would your team respond, if I asked them:
“Do you use BDD?”

Agenda

Interactions over tools

Test automation

Behaviour-driven development

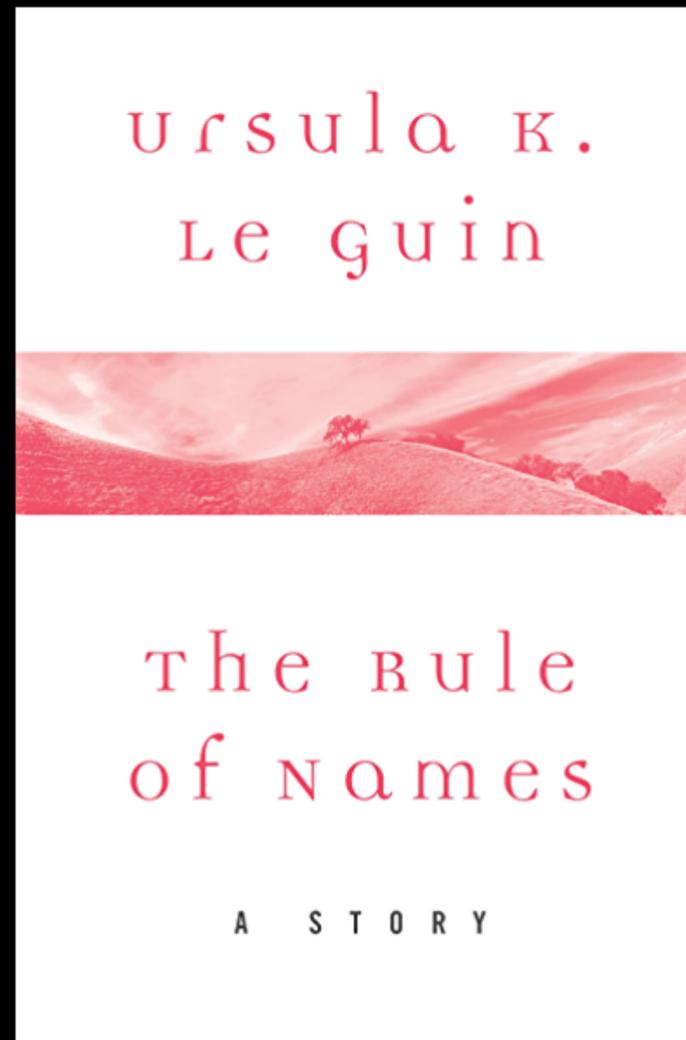
Compare and contrast

Shift left

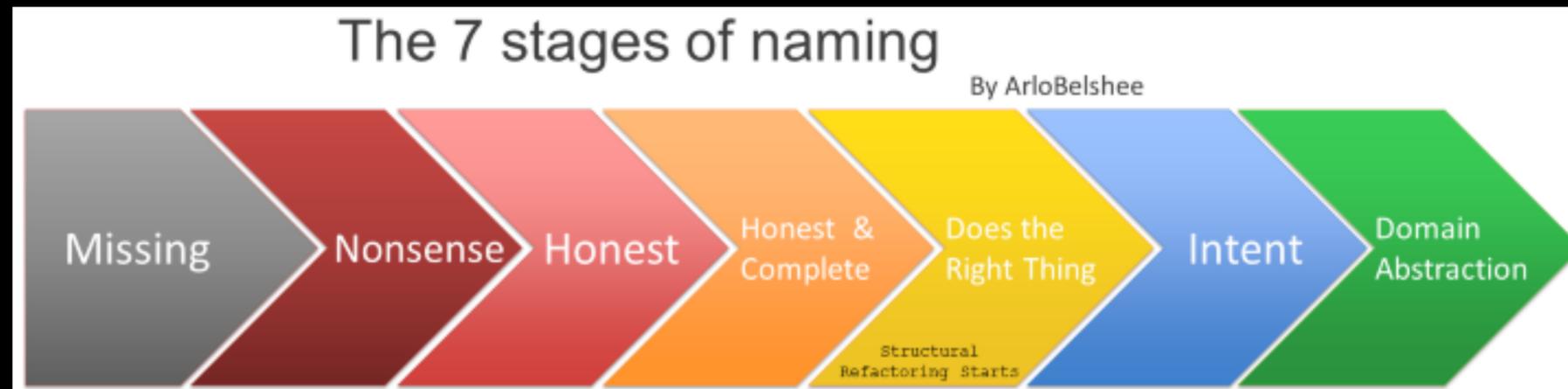
Confusion

Wrap-up

Names have power



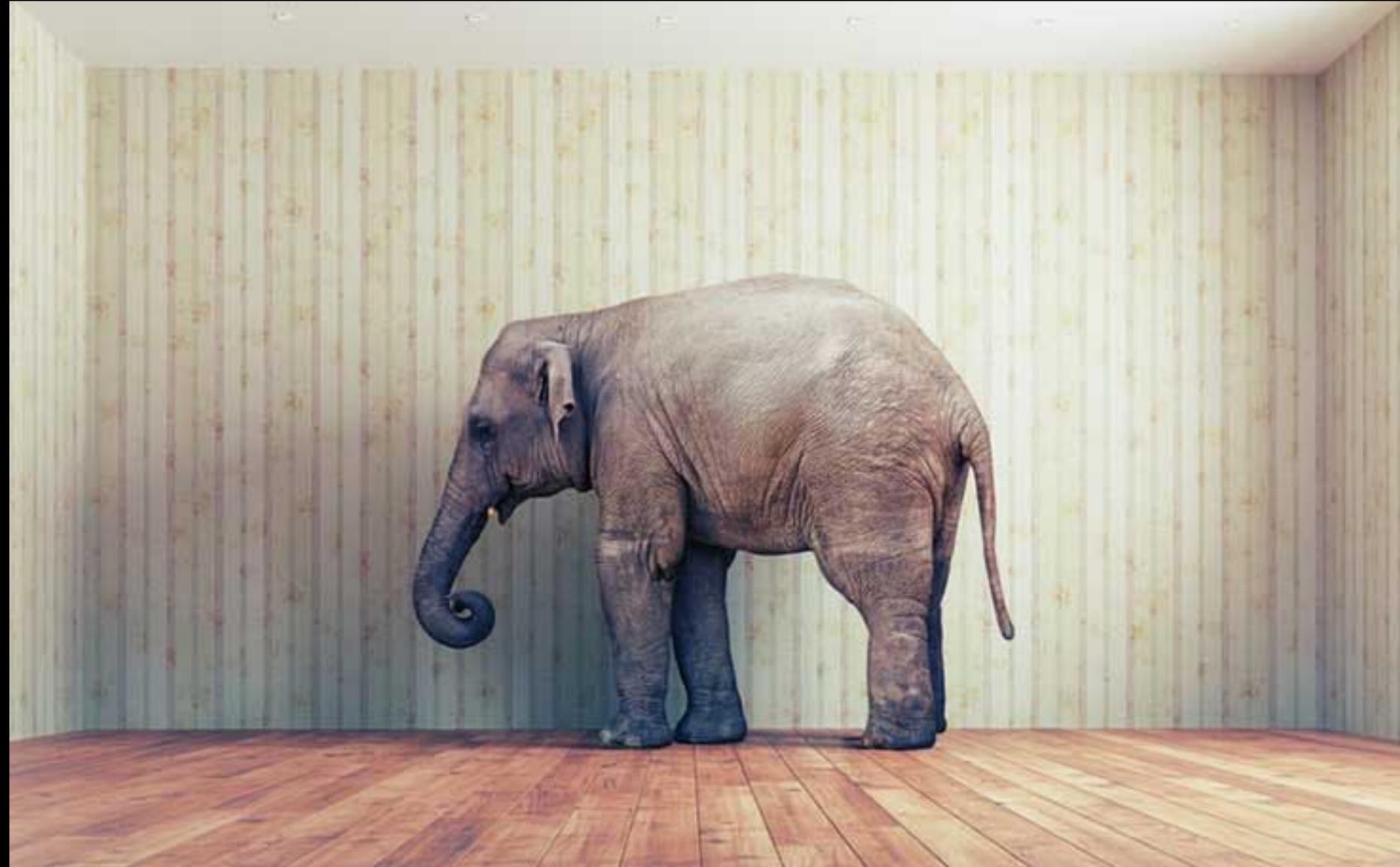
Naming is a process



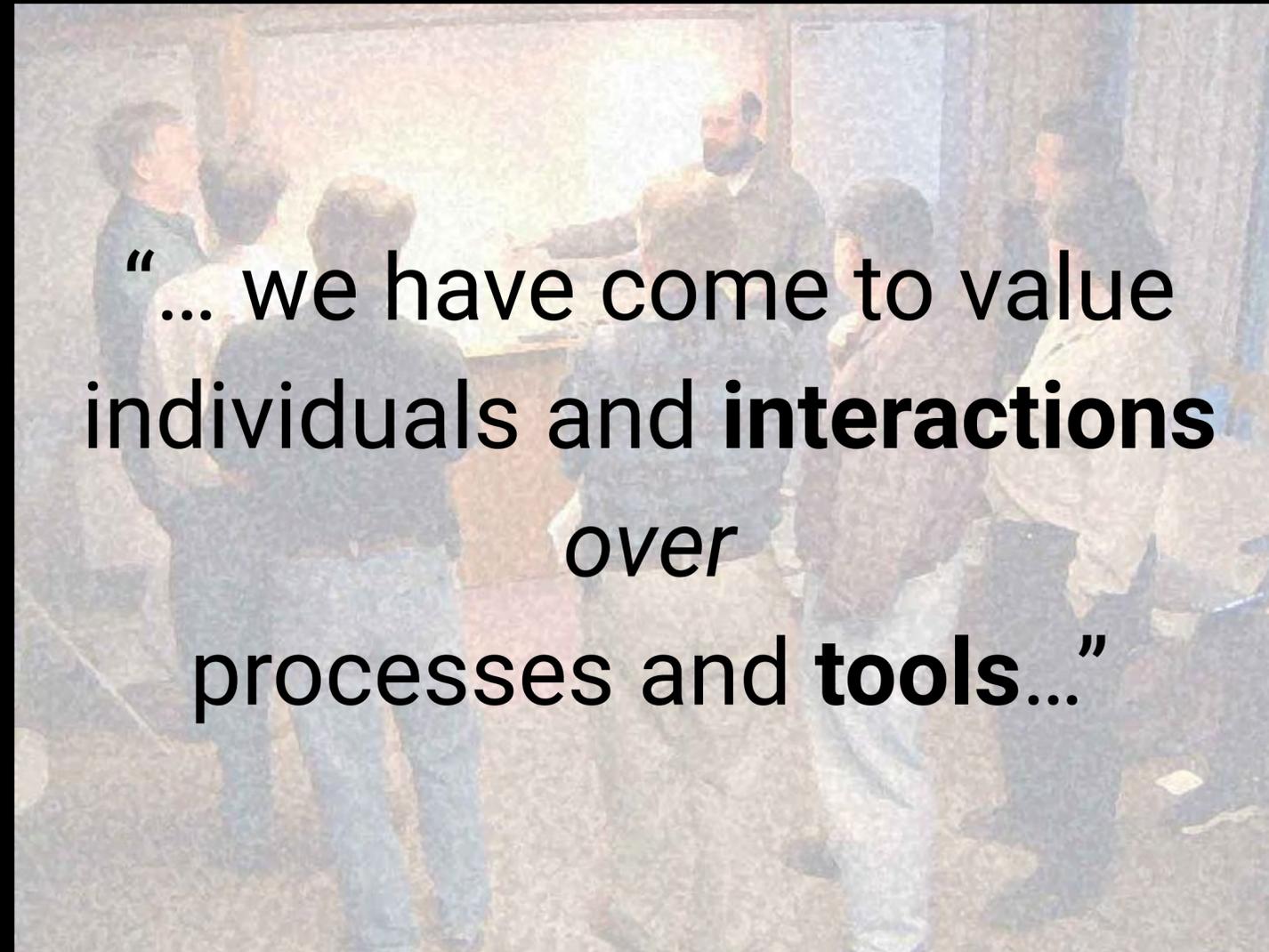
“Names are the place we communicate our insights and intentions to other humans.”

Arlo Belslee

What does “agile” mean?



Perspective is important



“... we have come to value
individuals and **interactions**
over
processes and **tools...**”

<http://agilemanifesto.org/>

Agenda

Interactions over tools

Test automation

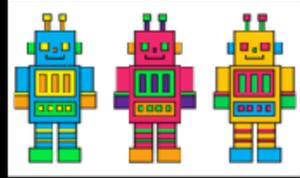
Behaviour-driven development

Compare and contrast

Shift left

Confusion

Wrap-up

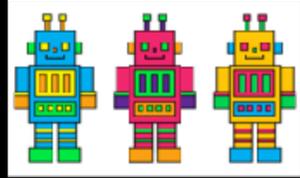


Define test automation

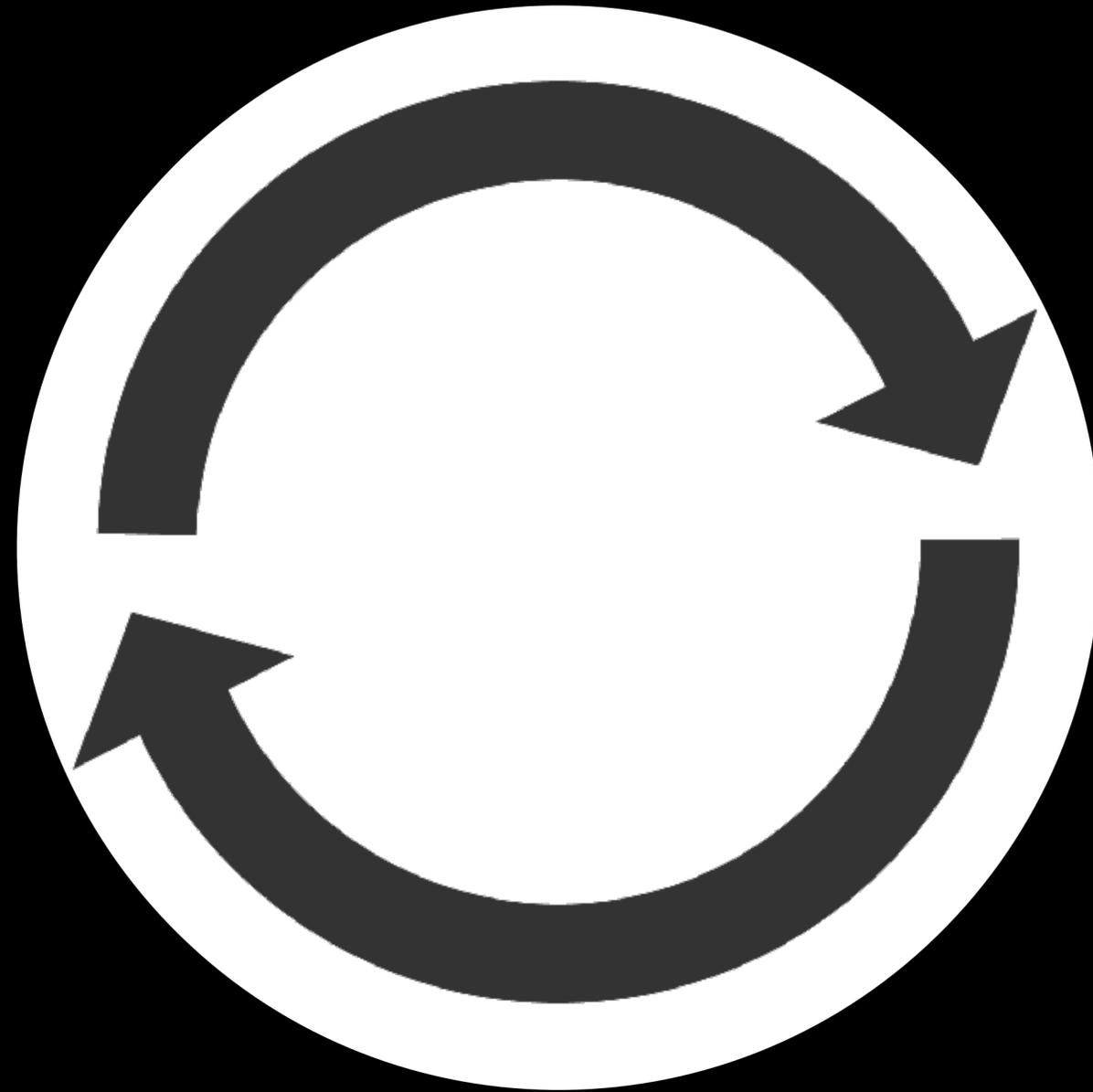
“... test automation is the use of software separate from the software being tested to control the execution of tests and the comparison of actual outcomes with predicted outcomes.”

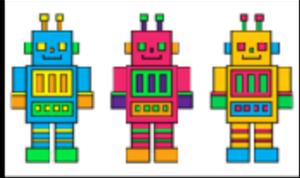
Wikipedia

https://en.wikipedia.org/wiki/Test_automation



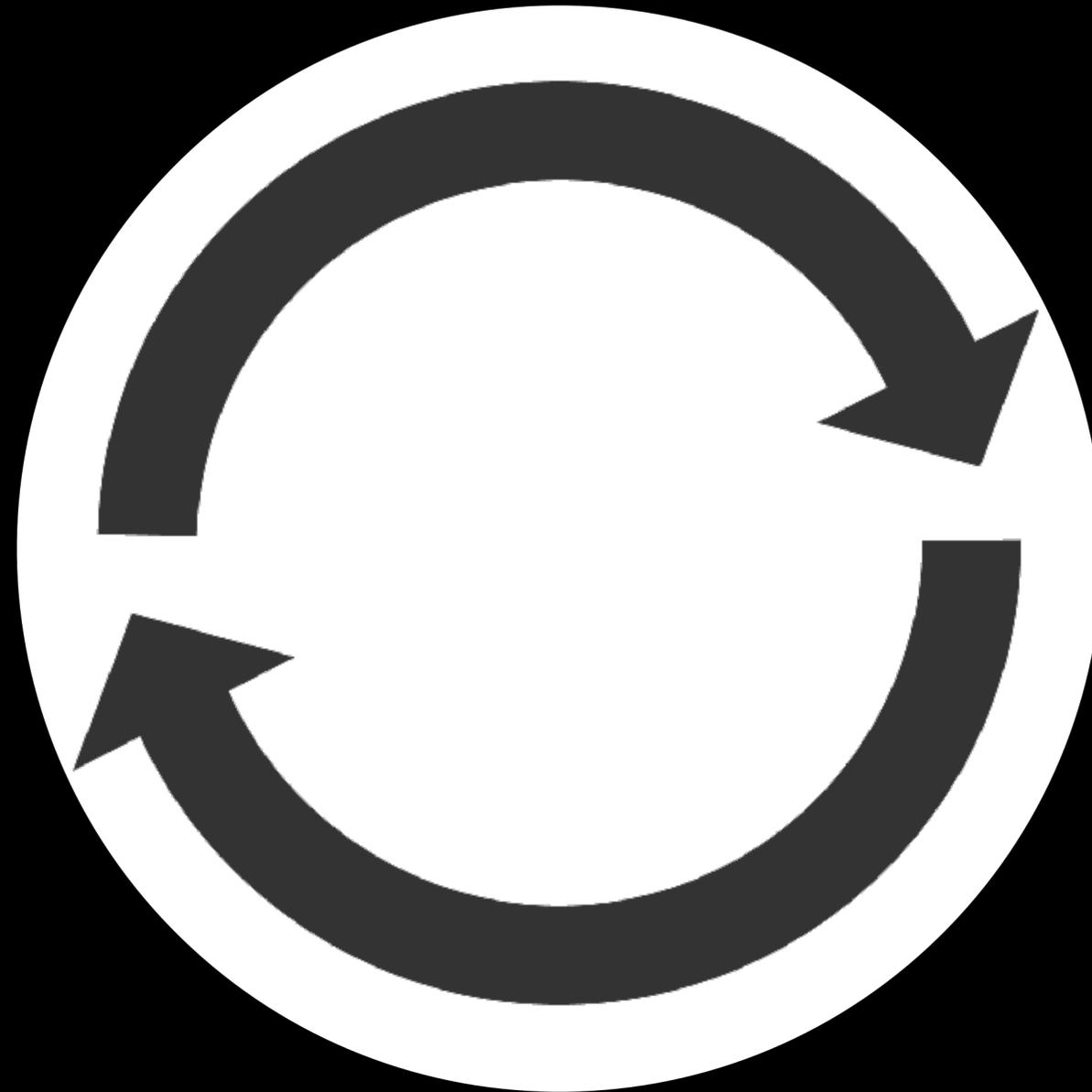
What are the benefits?

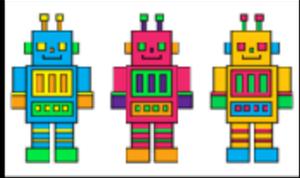




What are the benefits?

Faster feedback

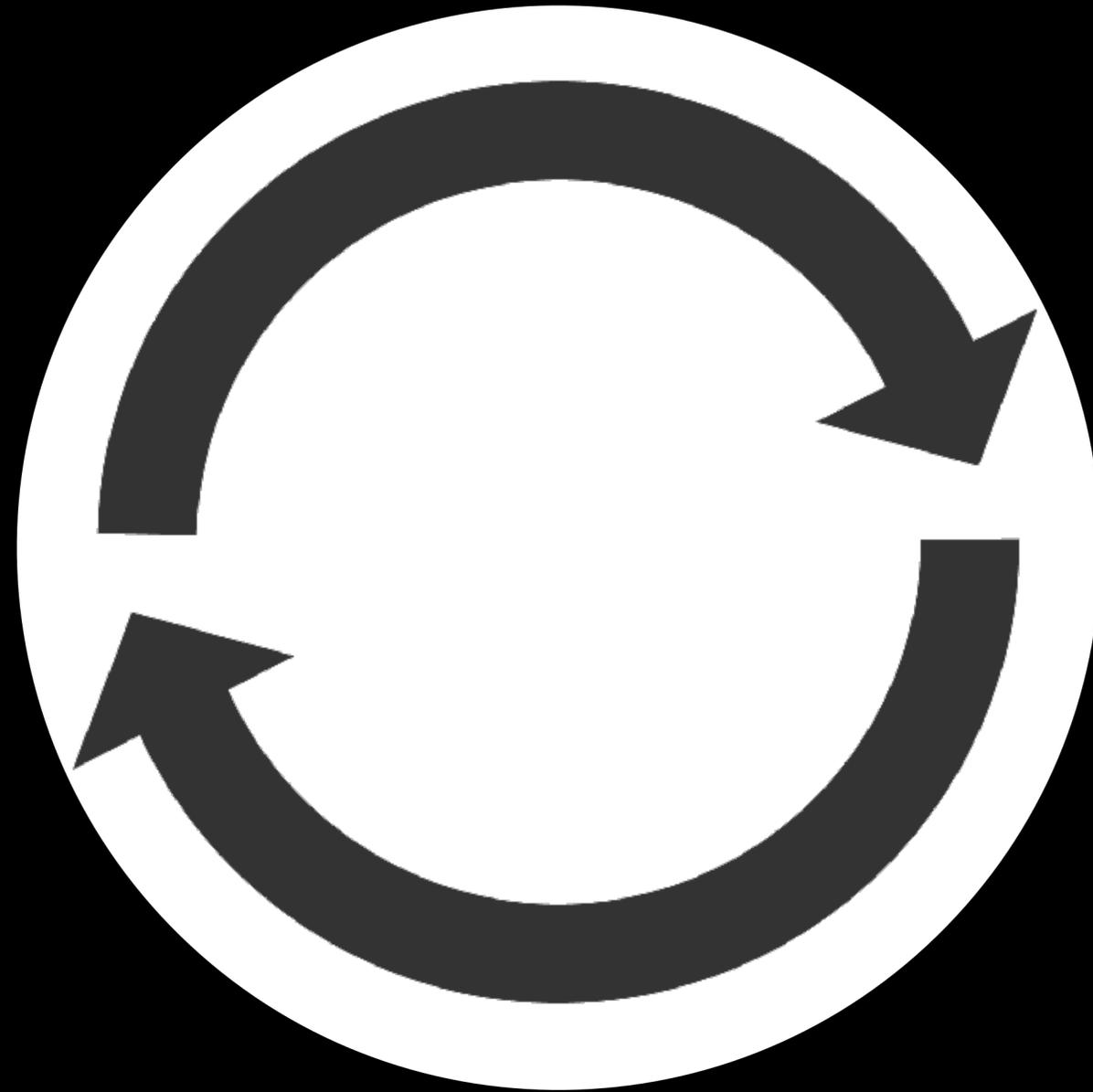


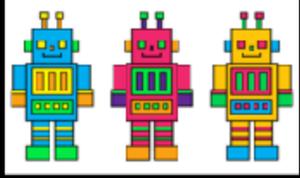


What are the benefits?

Faster feedback

More frequent
feedback

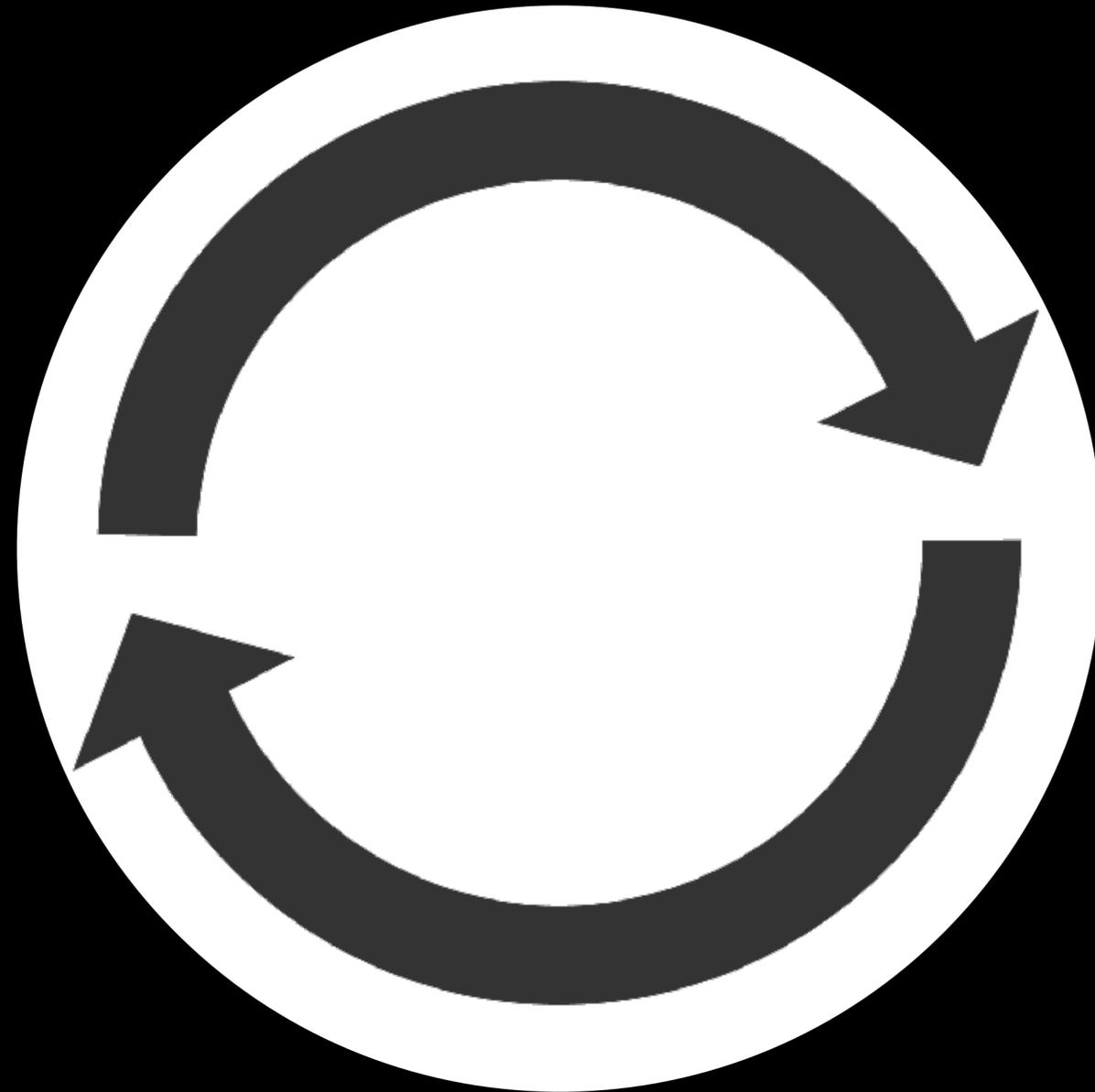




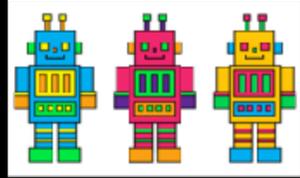
What are the benefits?

Faster feedback

More frequent
feedback



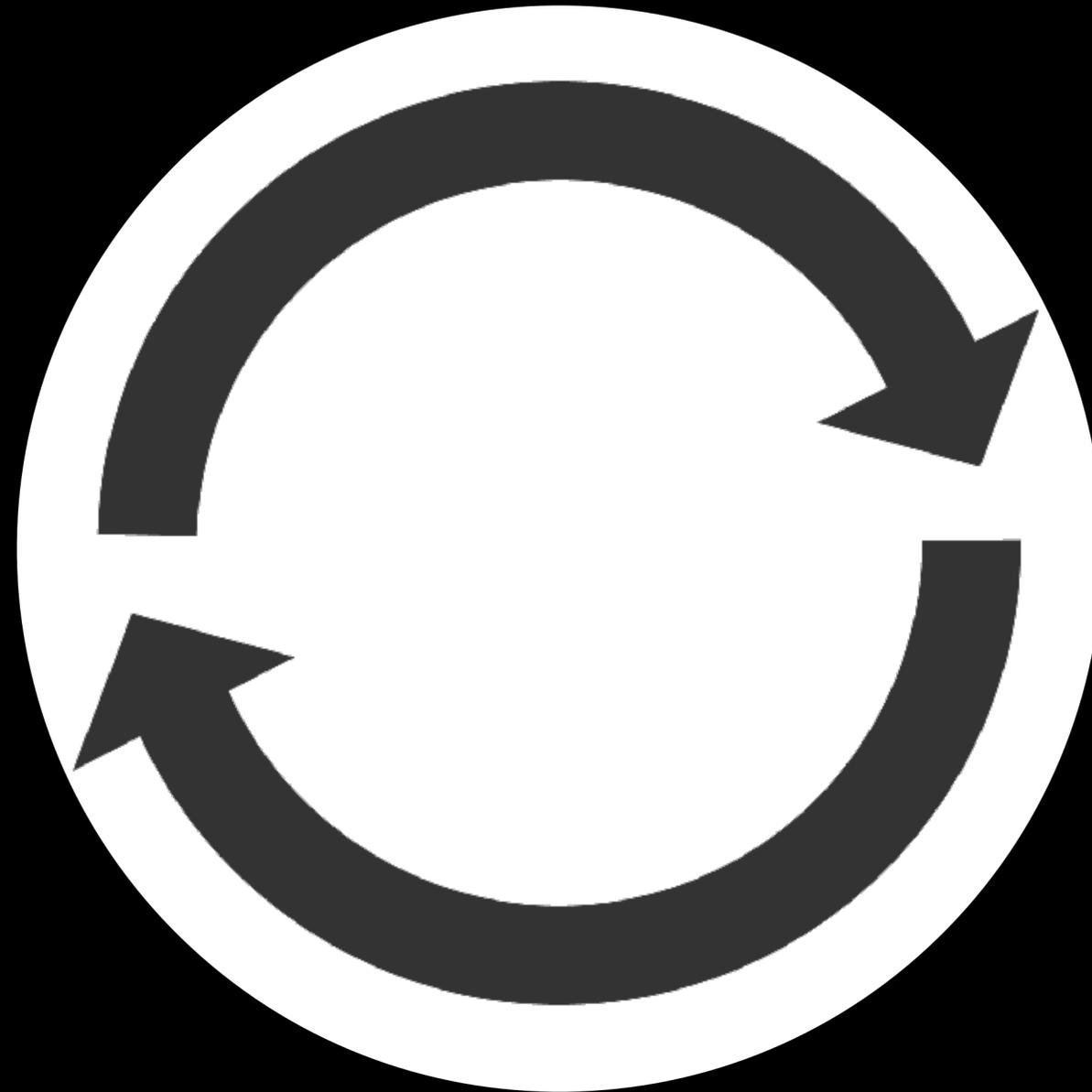
Higher quality



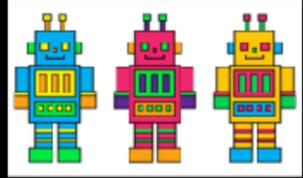
What are the benefits?

Faster feedback

More frequent
feedback



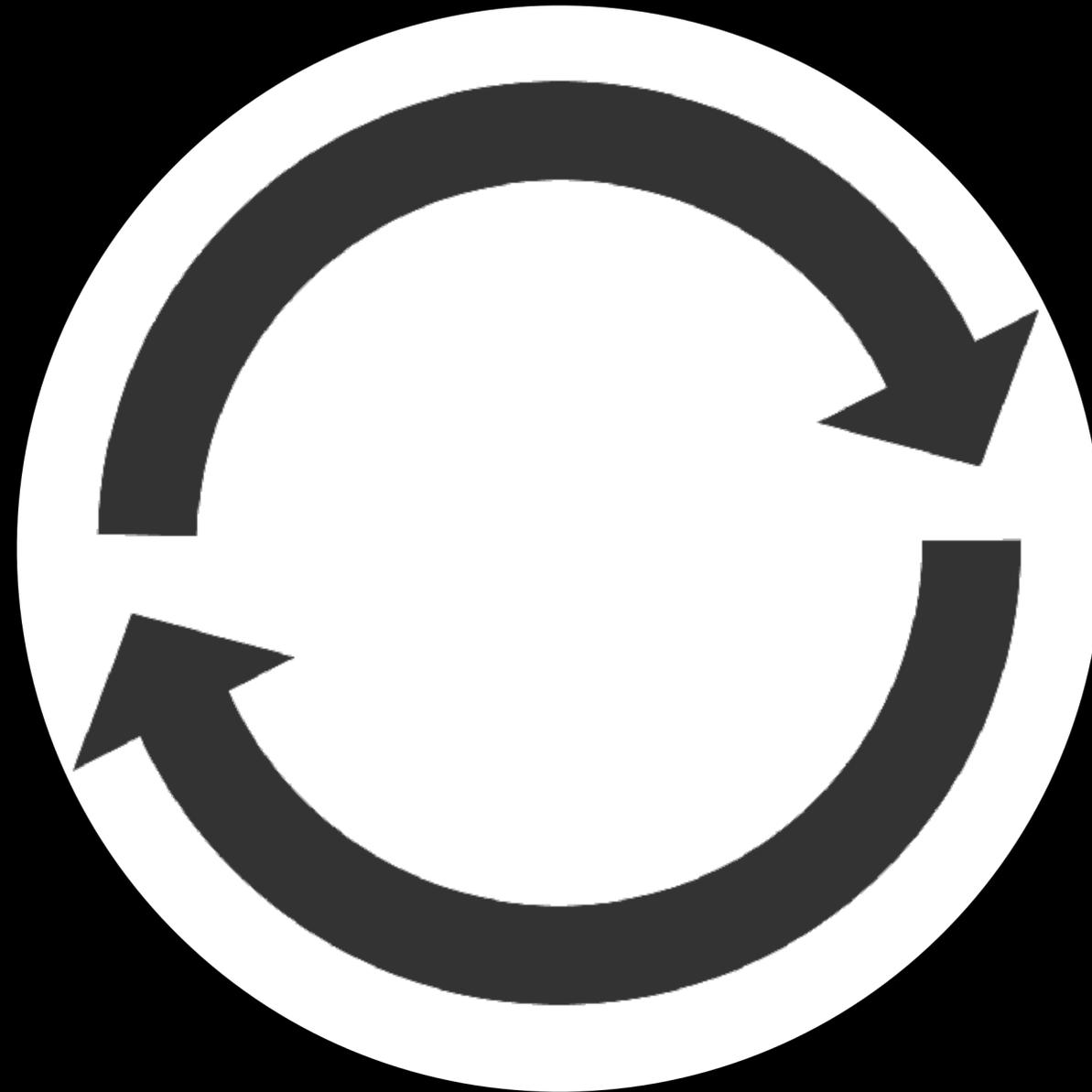
Higher quality ?



What are the benefits?

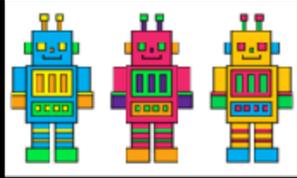
Faster feedback

More frequent
feedback



Higher quality ?

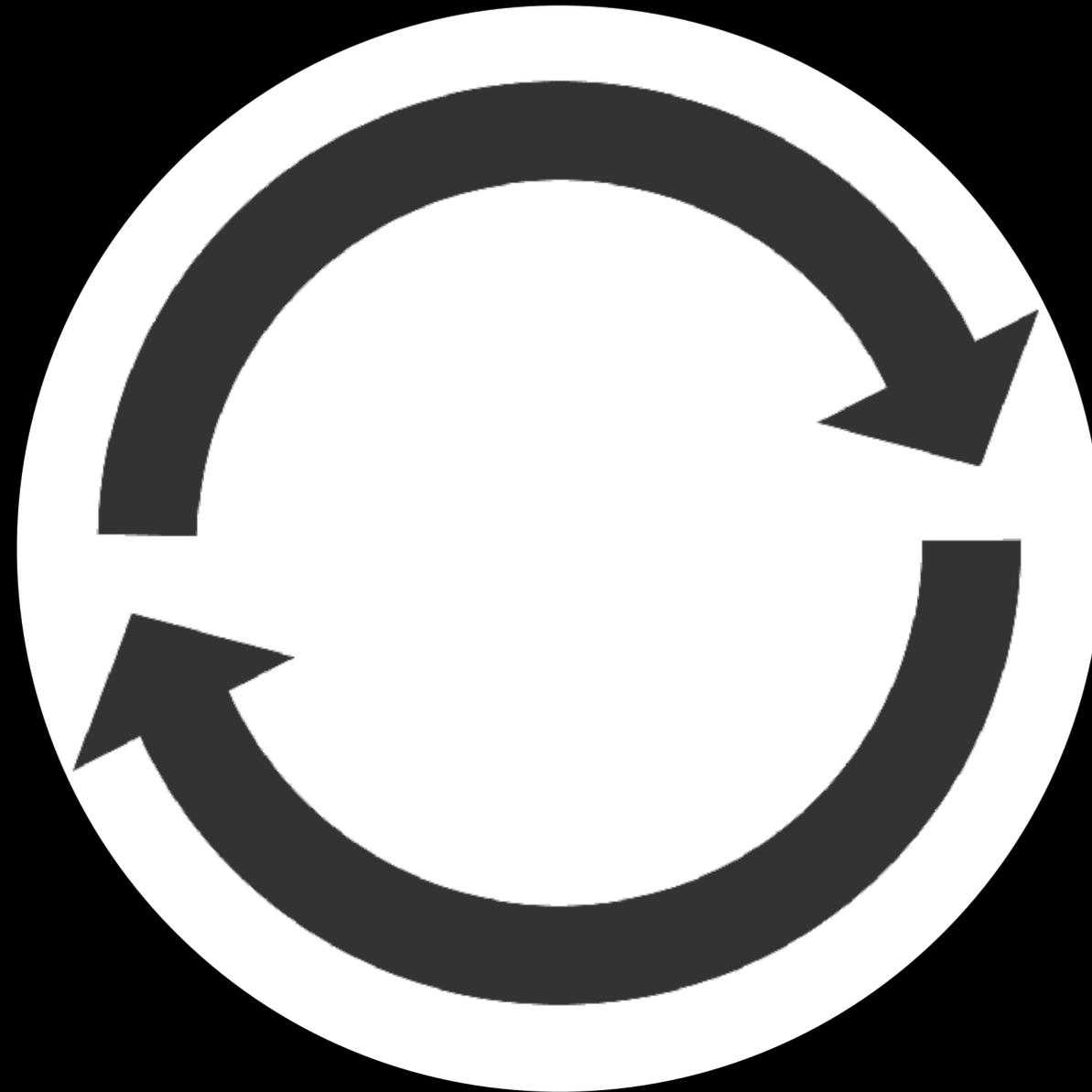
Repeatability



What are the benefits?

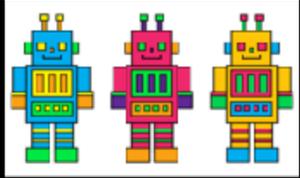
Faster feedback

More frequent
feedback



Higher quality ?

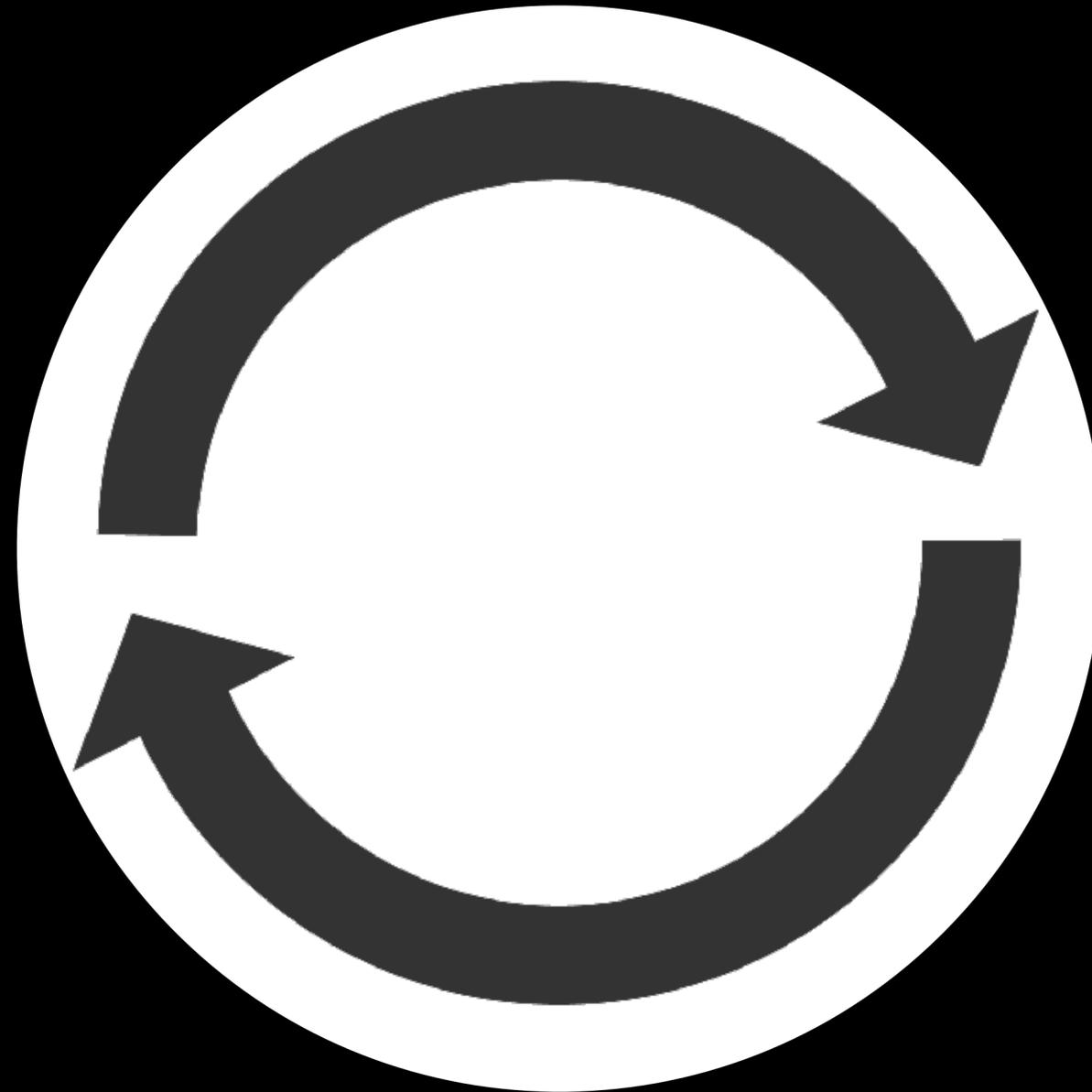
Repeatability ?



What are the benefits?

Faster feedback

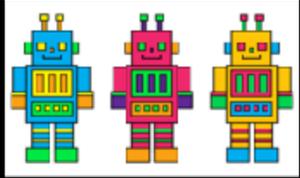
More frequent
feedback



Higher quality ?

Repeatability ?

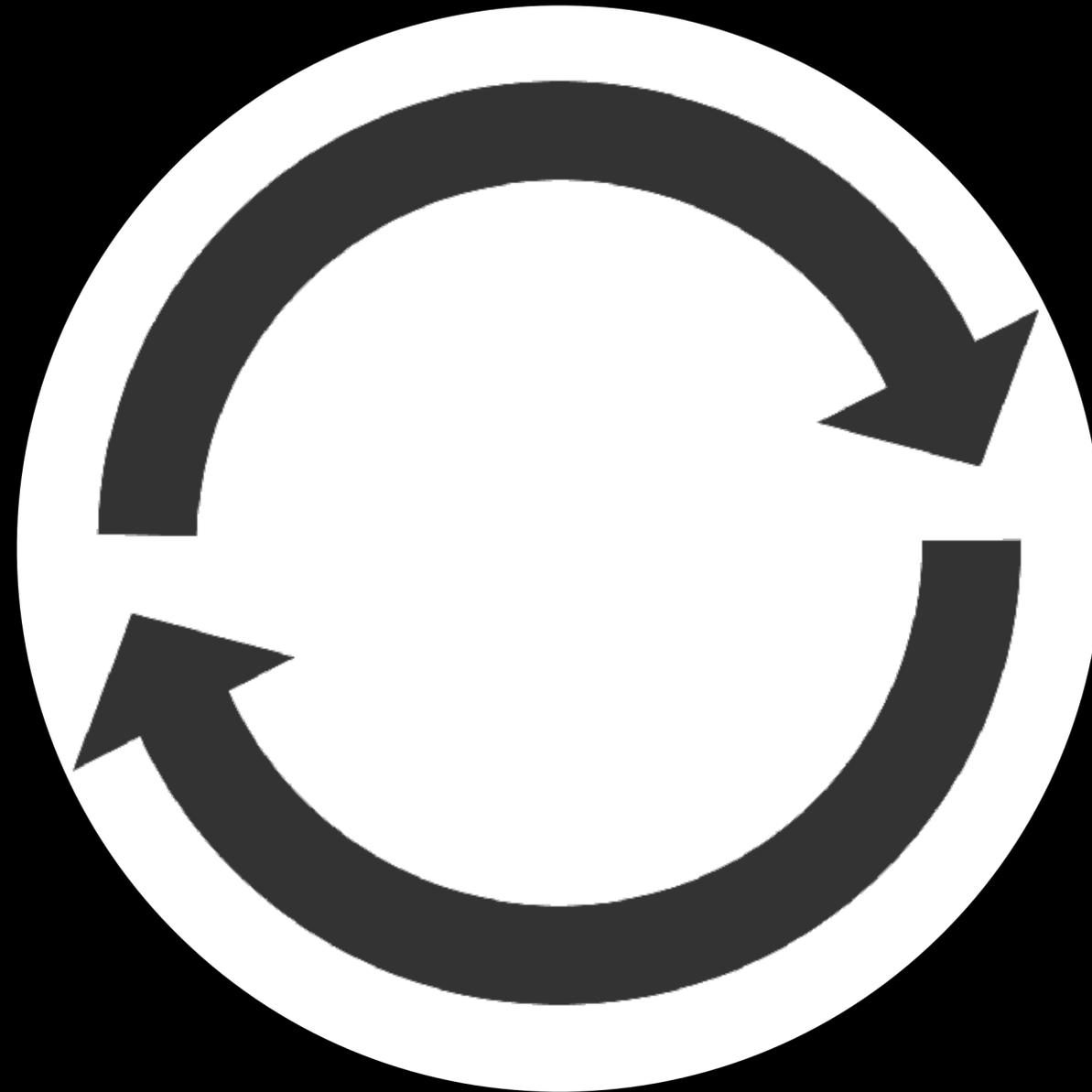
Lower costs



What are the benefits?

Faster feedback

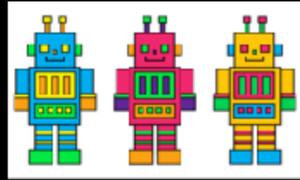
More frequent
feedback



Higher quality ?

Repeatability ?

Lower costs ?



Discuss benefits and risks

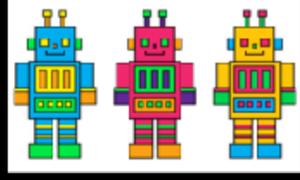
Higher quality ?

Repeatability ?

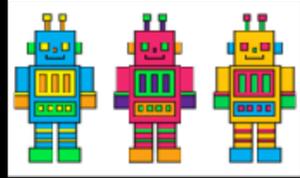
Lower costs ?

Once you arrive in your breakout room, note the room number (which is displayed in the title bar of the Zoom window).

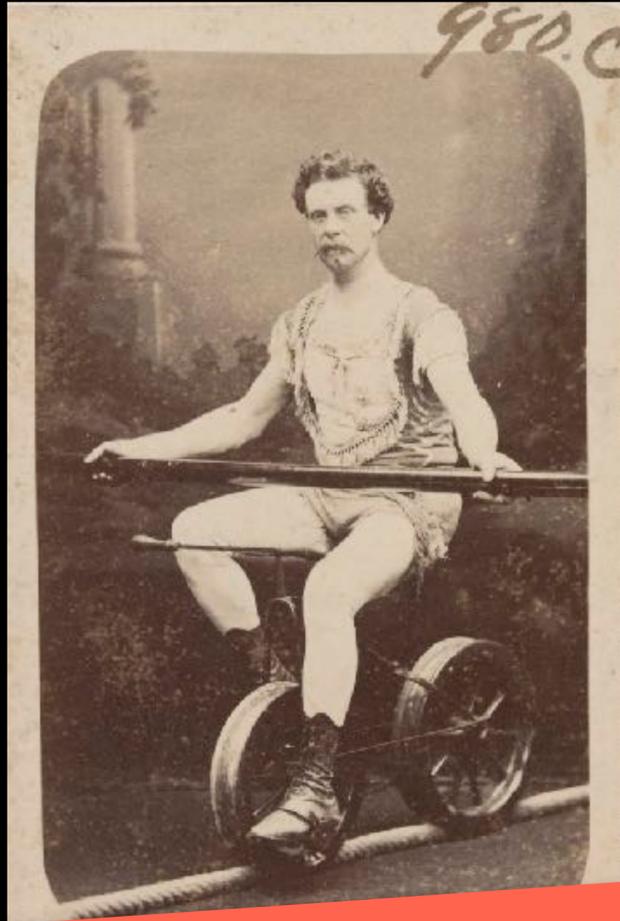
Now, navigate to <http://bit.ly/accu21b> in your browser and follow the instructions



What are the challenges?

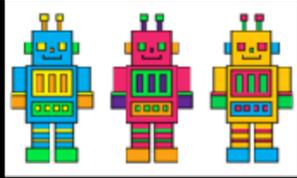


What are the challenges?

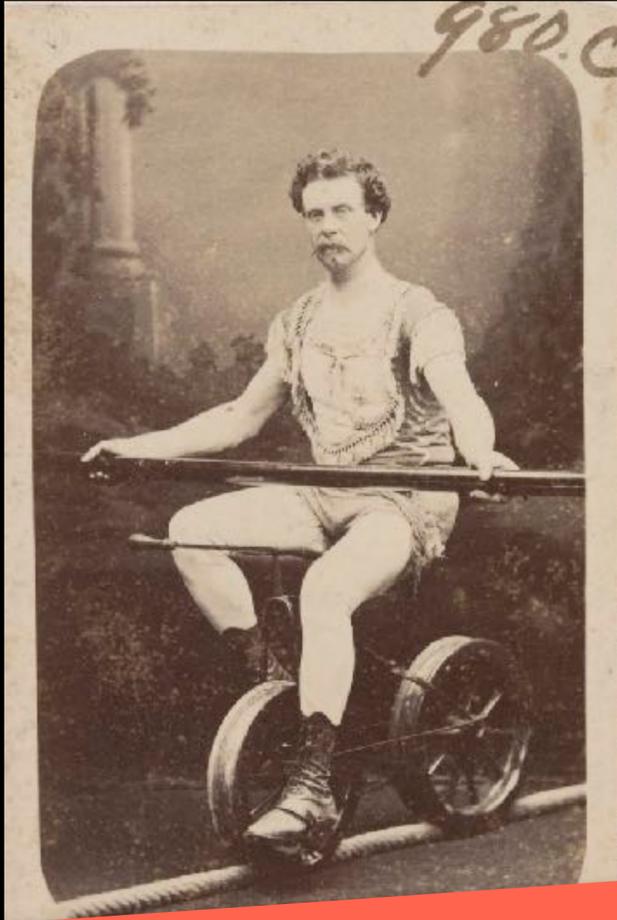


Skills

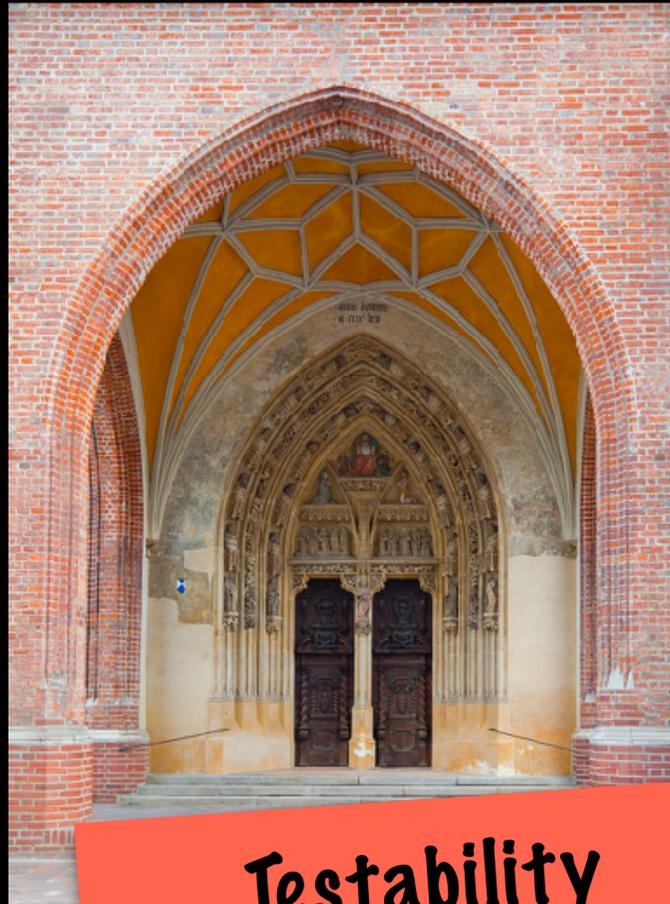
<http://handle.slv.vic.gov.au/10381/54918>



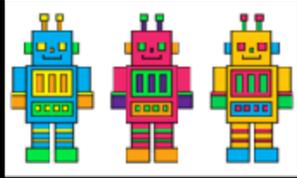
What are the challenges?



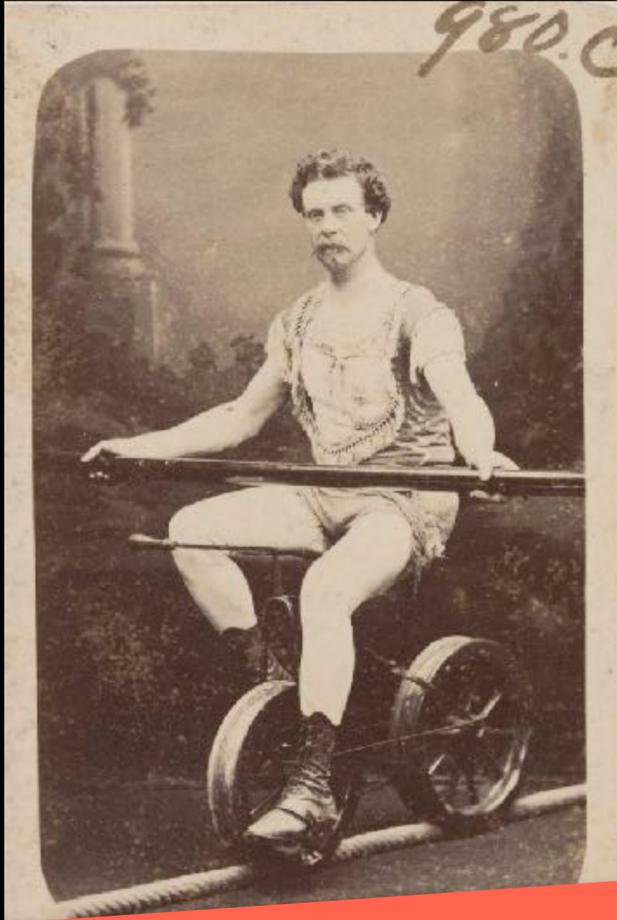
Skills



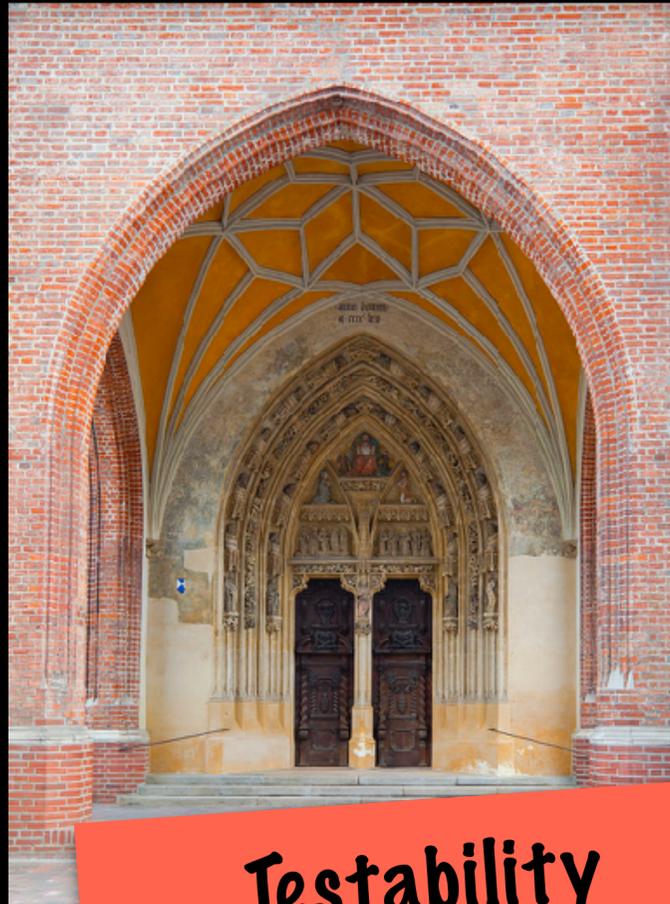
Testability



What are the challenges?



Skills

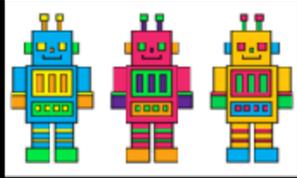


Testability

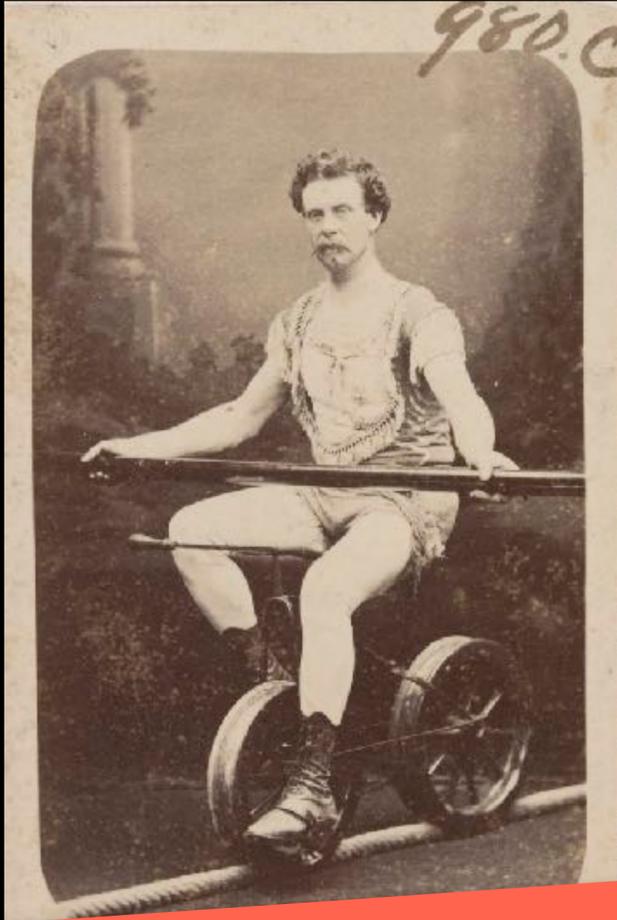


Late feedback

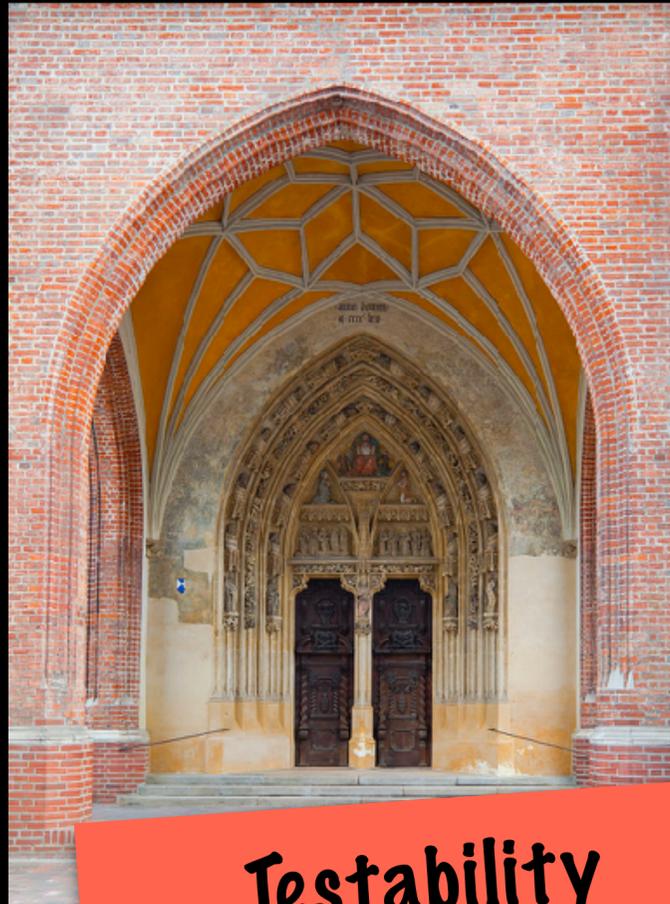
<http://handle.slv.vic.gov.au/10381/54918>



What are the challenges?



Skills



Testability

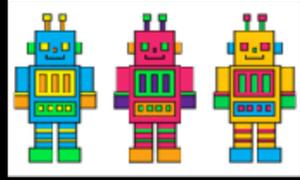


Late feedback

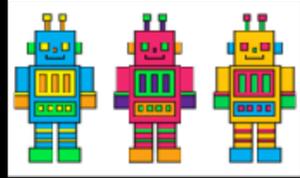


Overconfidence

<http://handle.slv.vic.gov.au/10381/54918>

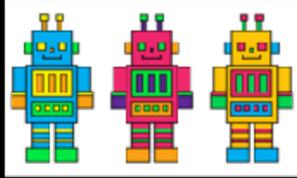


Interactions

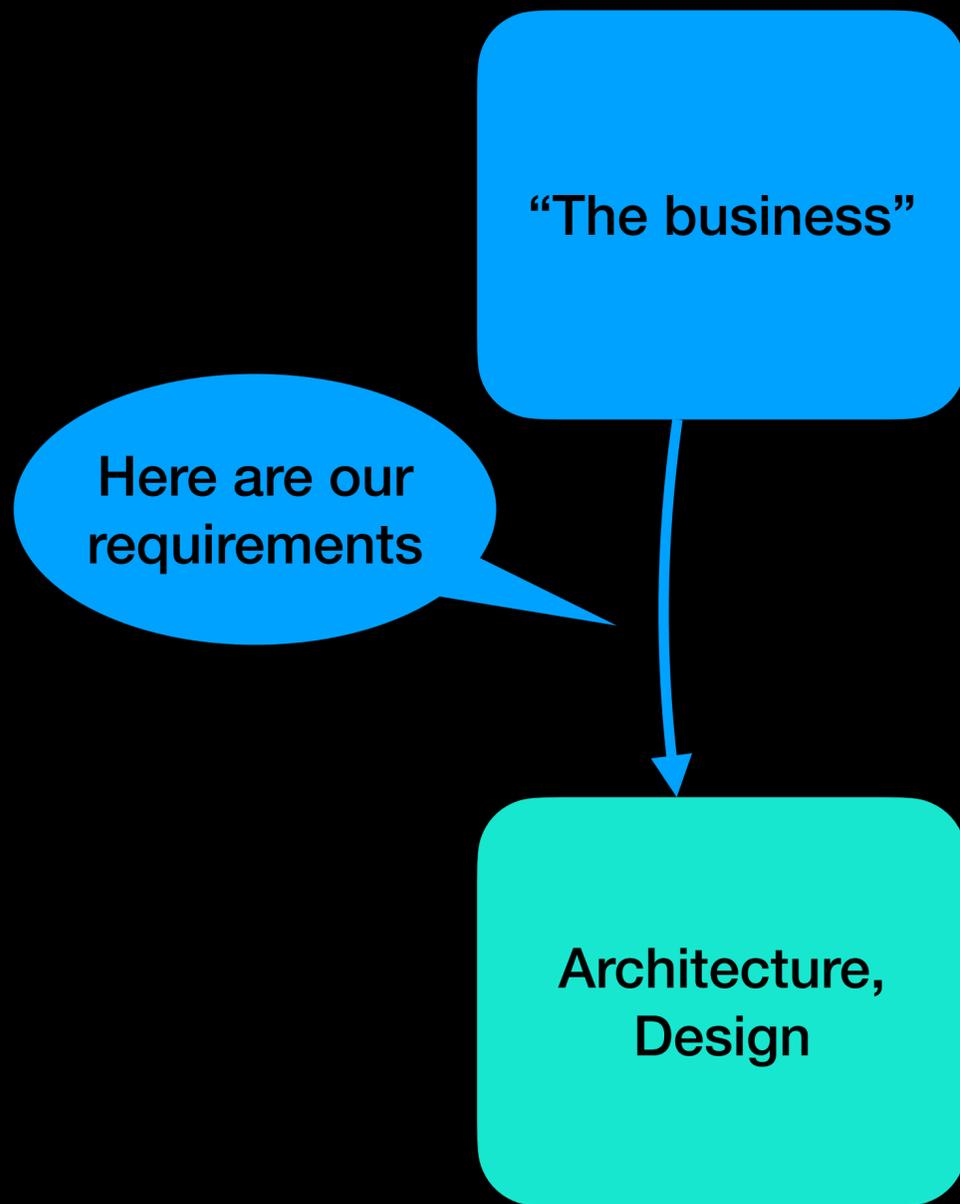


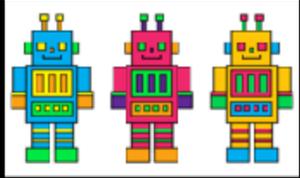
Interactions

“The business”

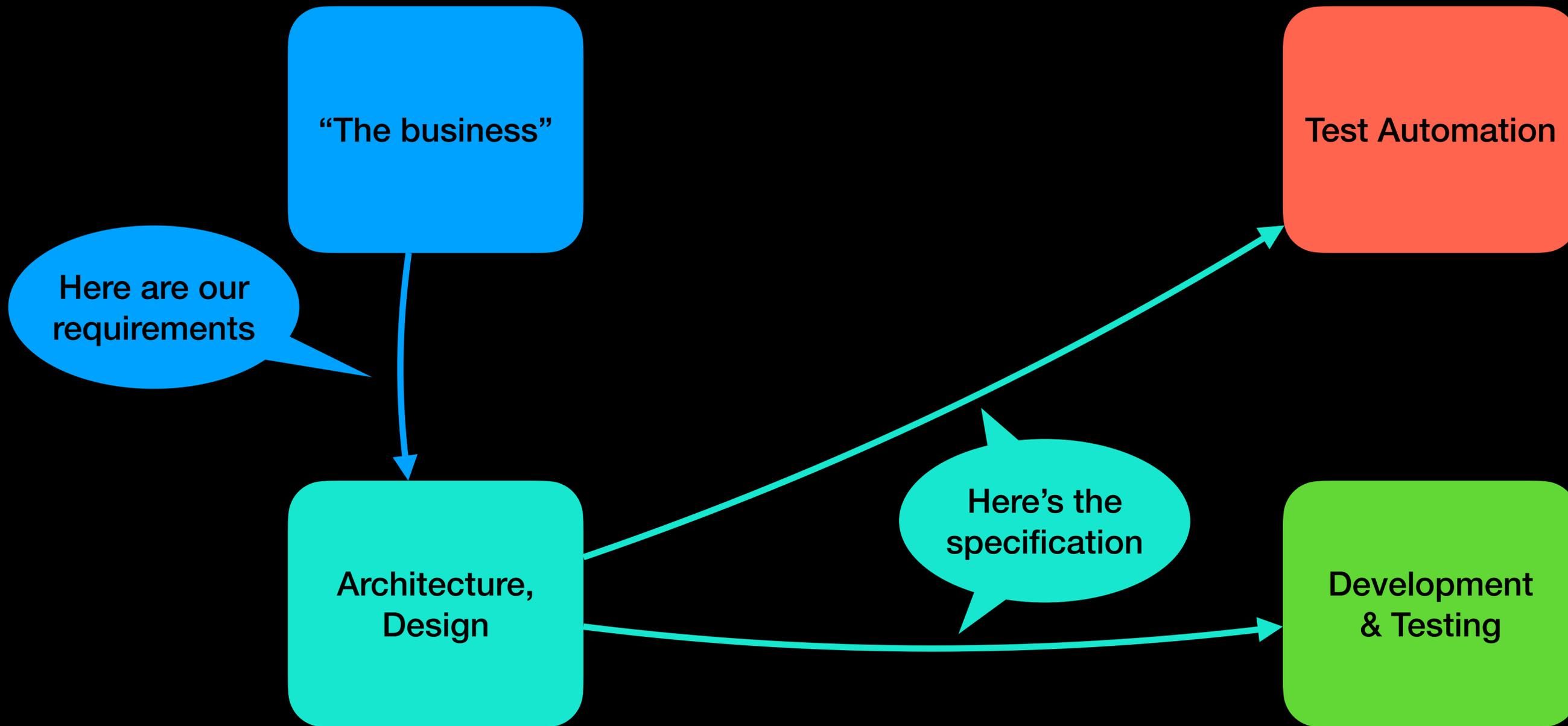


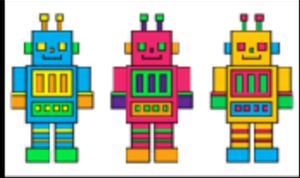
Interactions



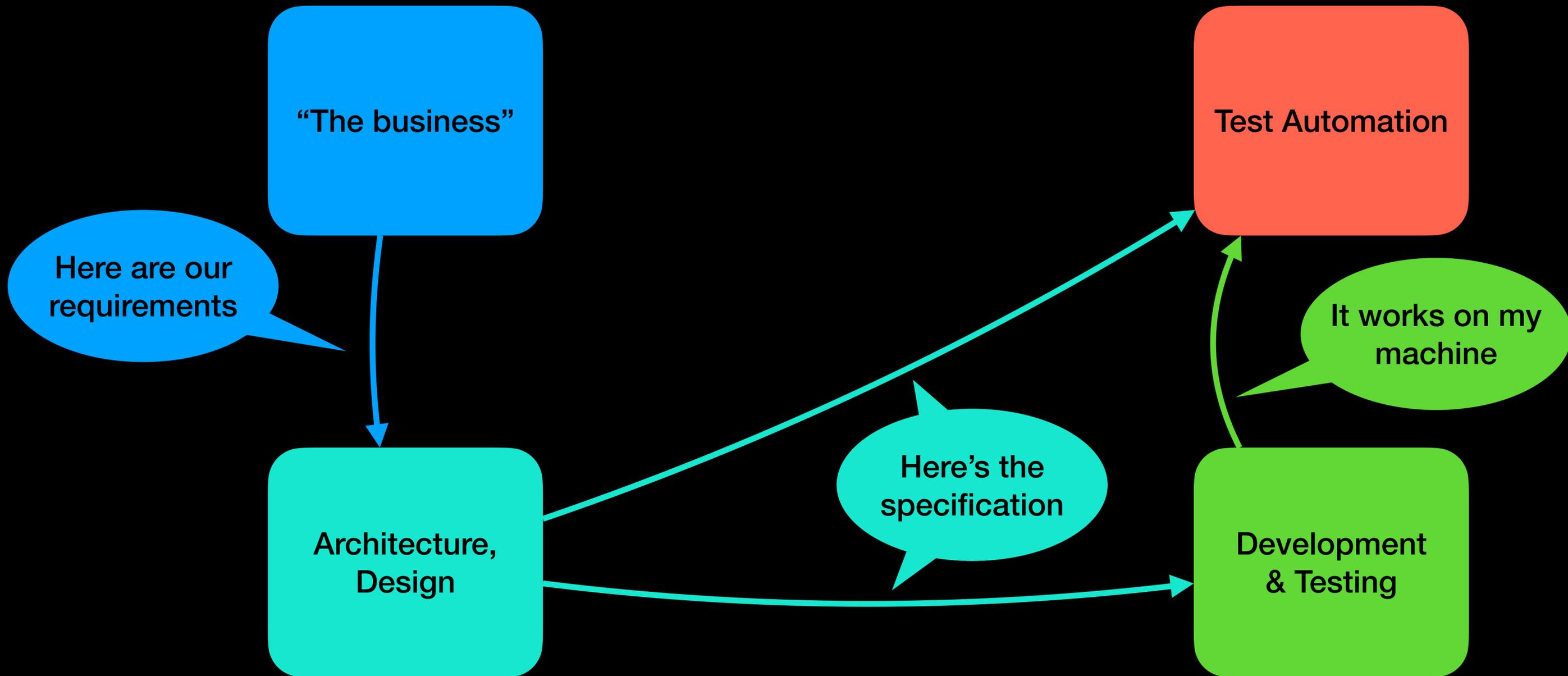


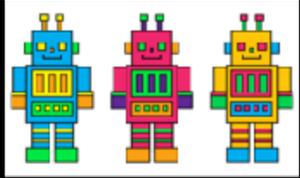
Interactions



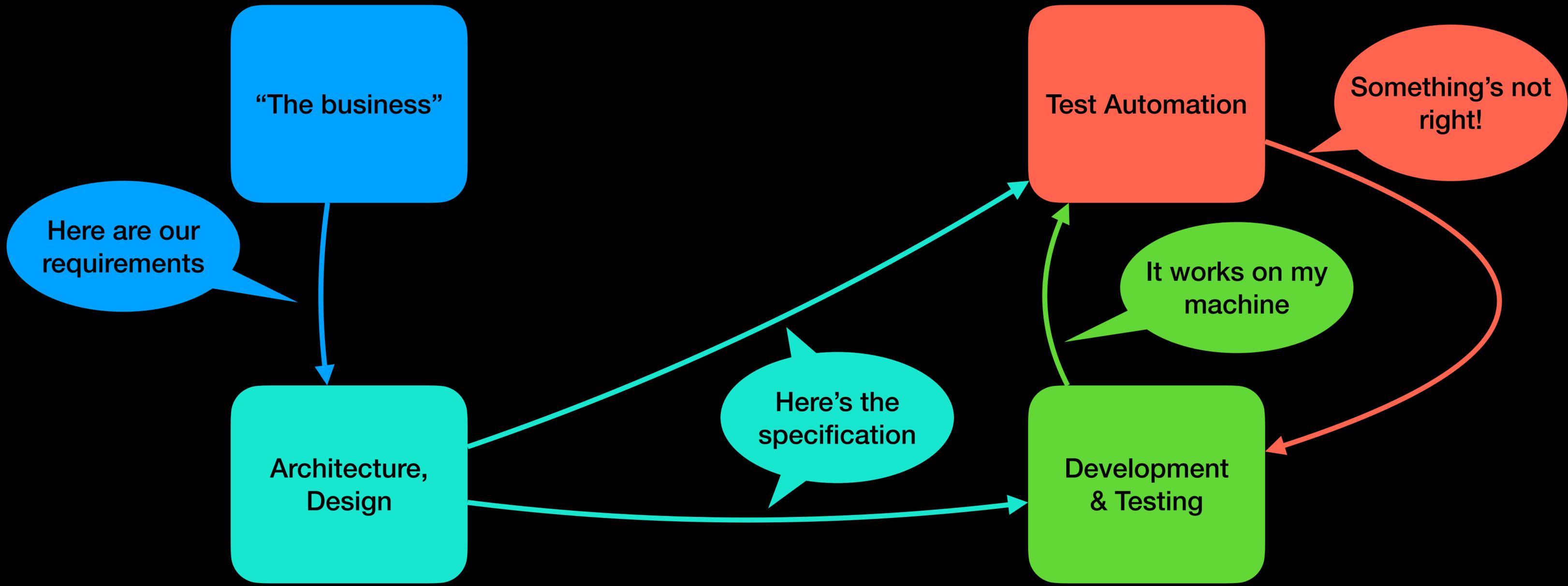


Interactions





Interactions



Agenda

Interactions over tools

Test automation

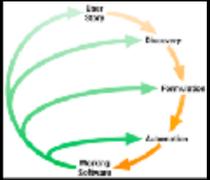
Behaviour-driven development

Compare and contrast

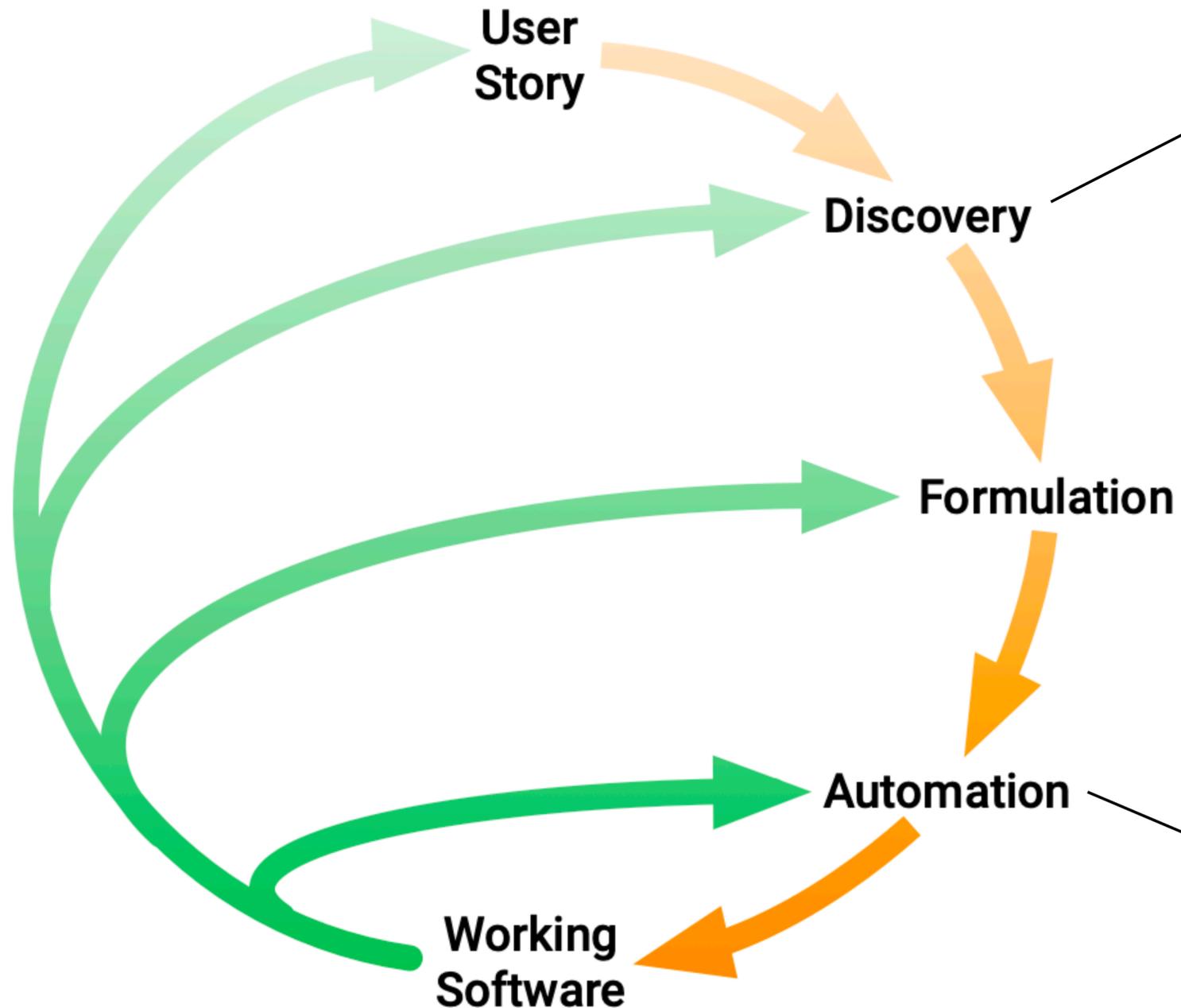
Shift left

Confusion

Wrap-up



Define BDD



Discovery — Create a shared understanding of the requirements through collaboration, typically achieved through a structured conversation centered on rules and examples

Formulation — Examples of system behaviour are documented using business terminology

Automation — The documentation is automated, creating living documentation that verifies the system's behaviour

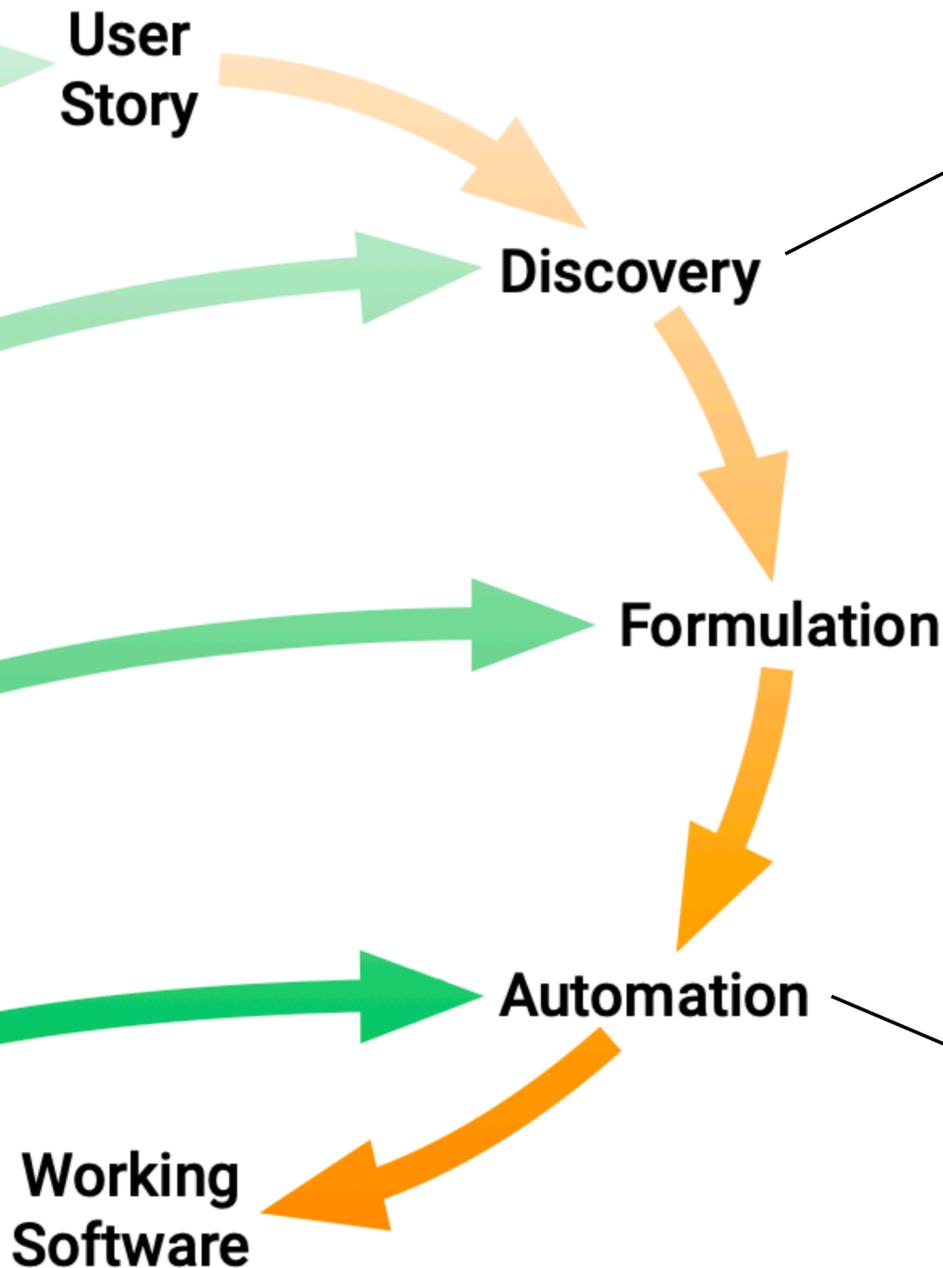


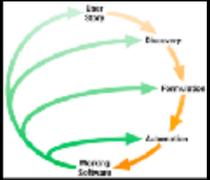
Define BDD

Discovery — Create a shared understanding of the requirements through collaboration, typically achieved through a structured conversation centered on rules and examples

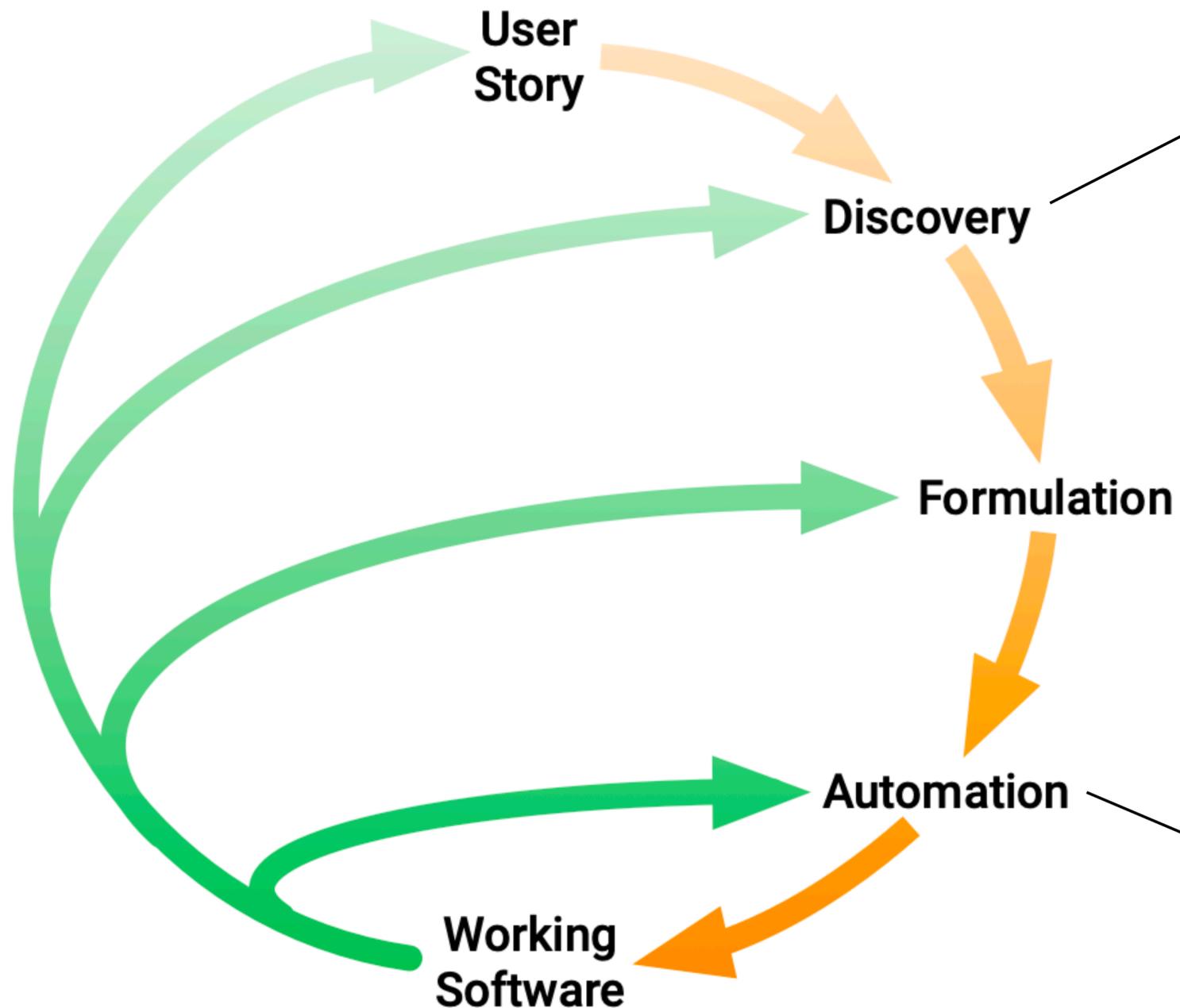
Formulation — Examples of system behaviour are documented using business terminology

Automation — The documentation is automated, creating living documentation that verifies the system's behaviour





Define BDD



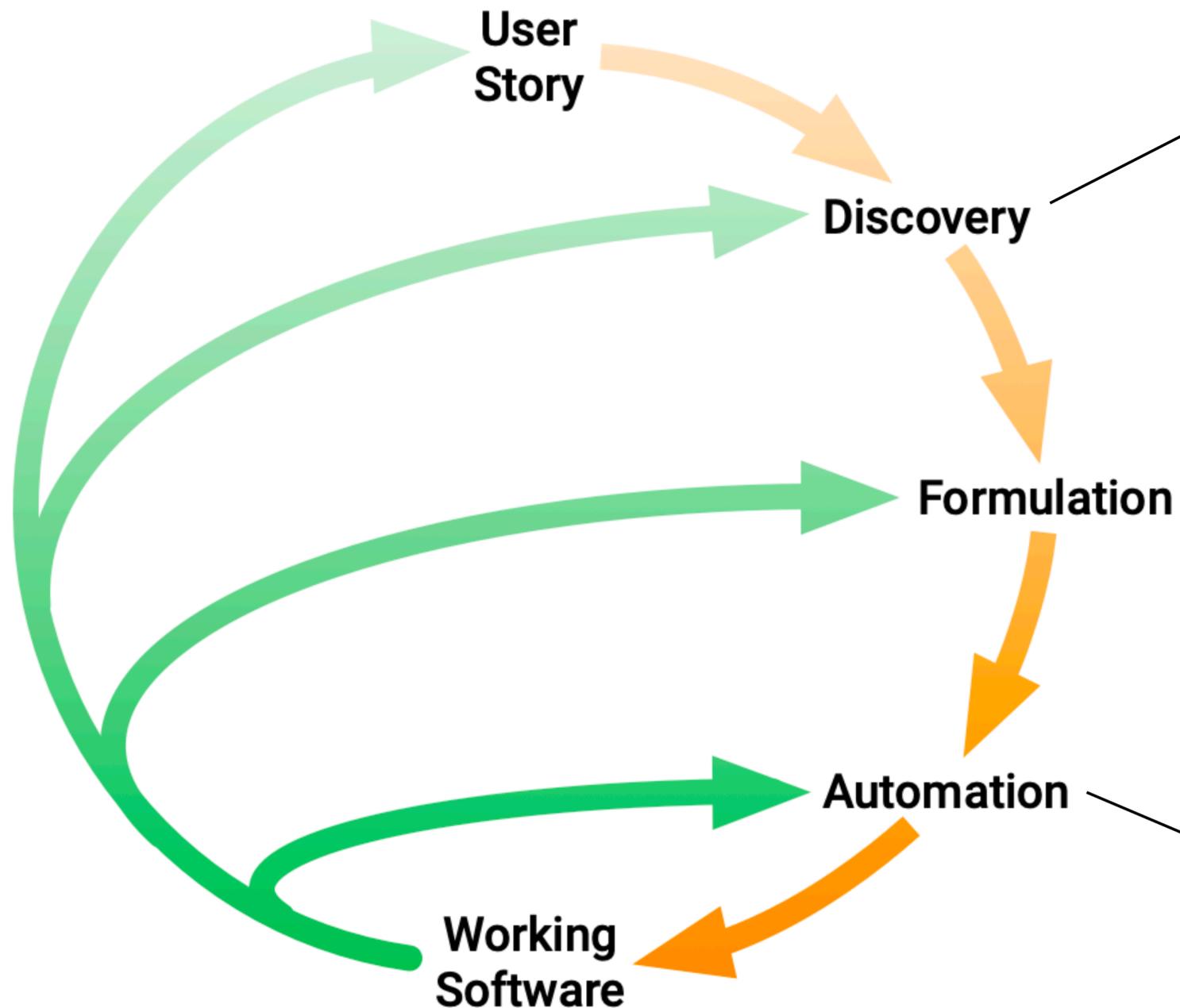
Create a shared understanding of the requirements through collaboration, typically achieved through a structured conversation centered on rules and examples

Examples of system behaviour are documented using business terminology

The documentation is automated, creating living documentation that verifies the system's behaviour



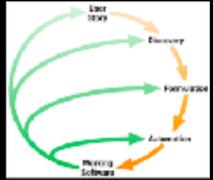
Define BDD



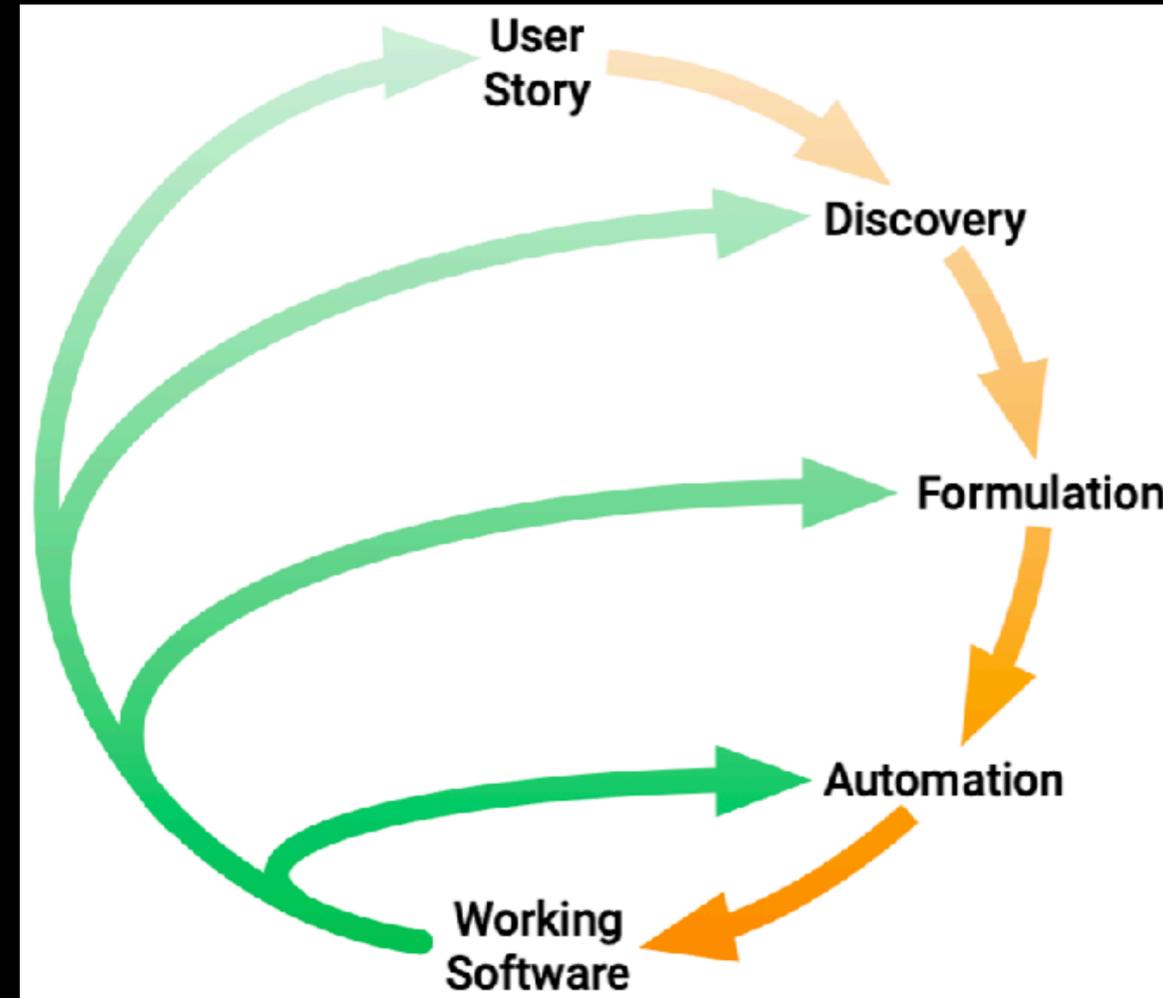
Discovery — Create a shared understanding of the requirements through collaboration, typically achieved through a structured conversation centered on rules and examples

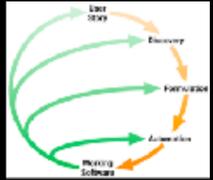
Formulation — Examples of system behaviour are documented using business terminology

Automation — The documentation is automated, creating living documentation that verifies the system's behaviour



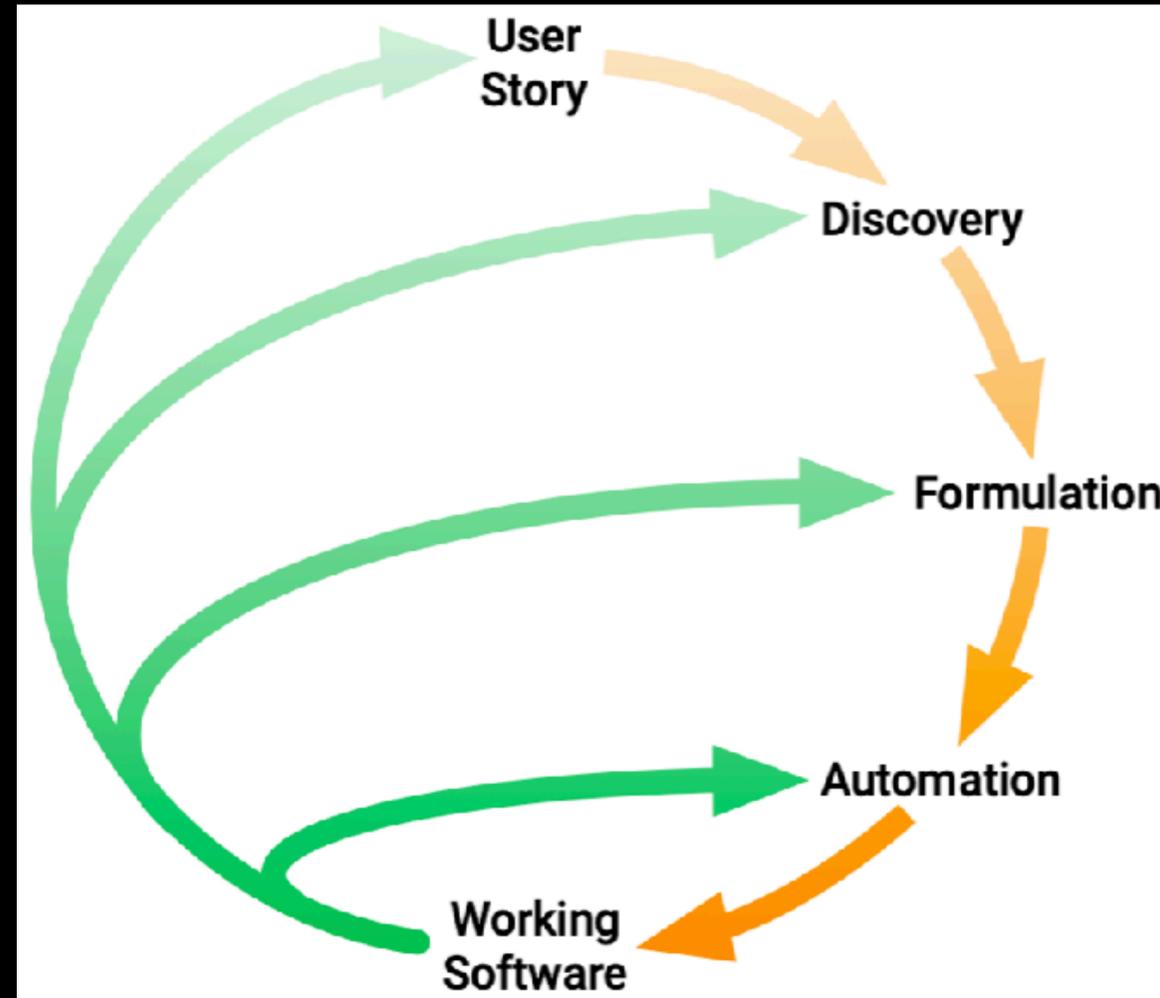
What are the benefits?

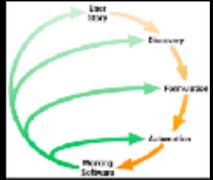




What are the benefits?

Early learning

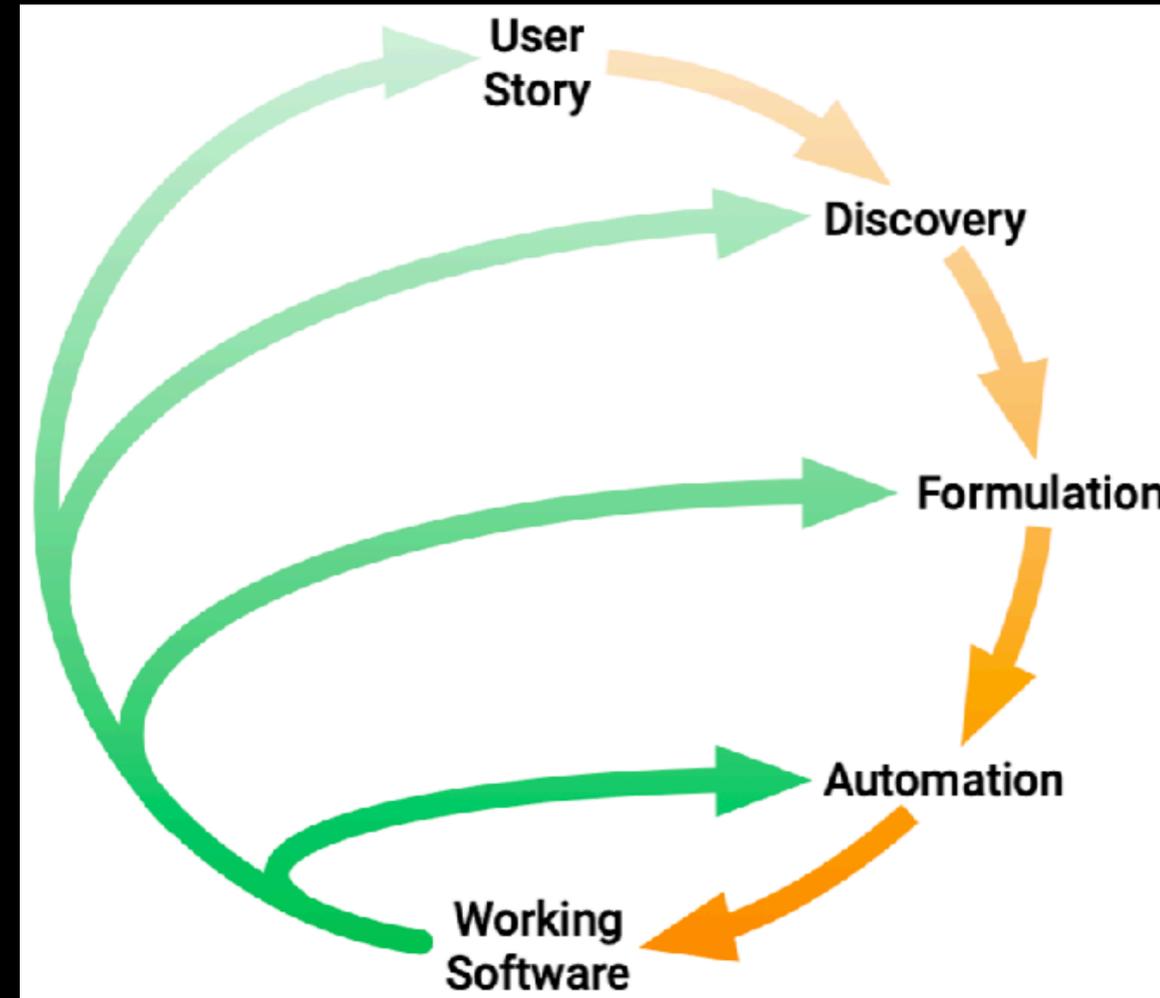


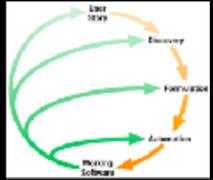


What are the benefits?

Early learning

Shared understanding



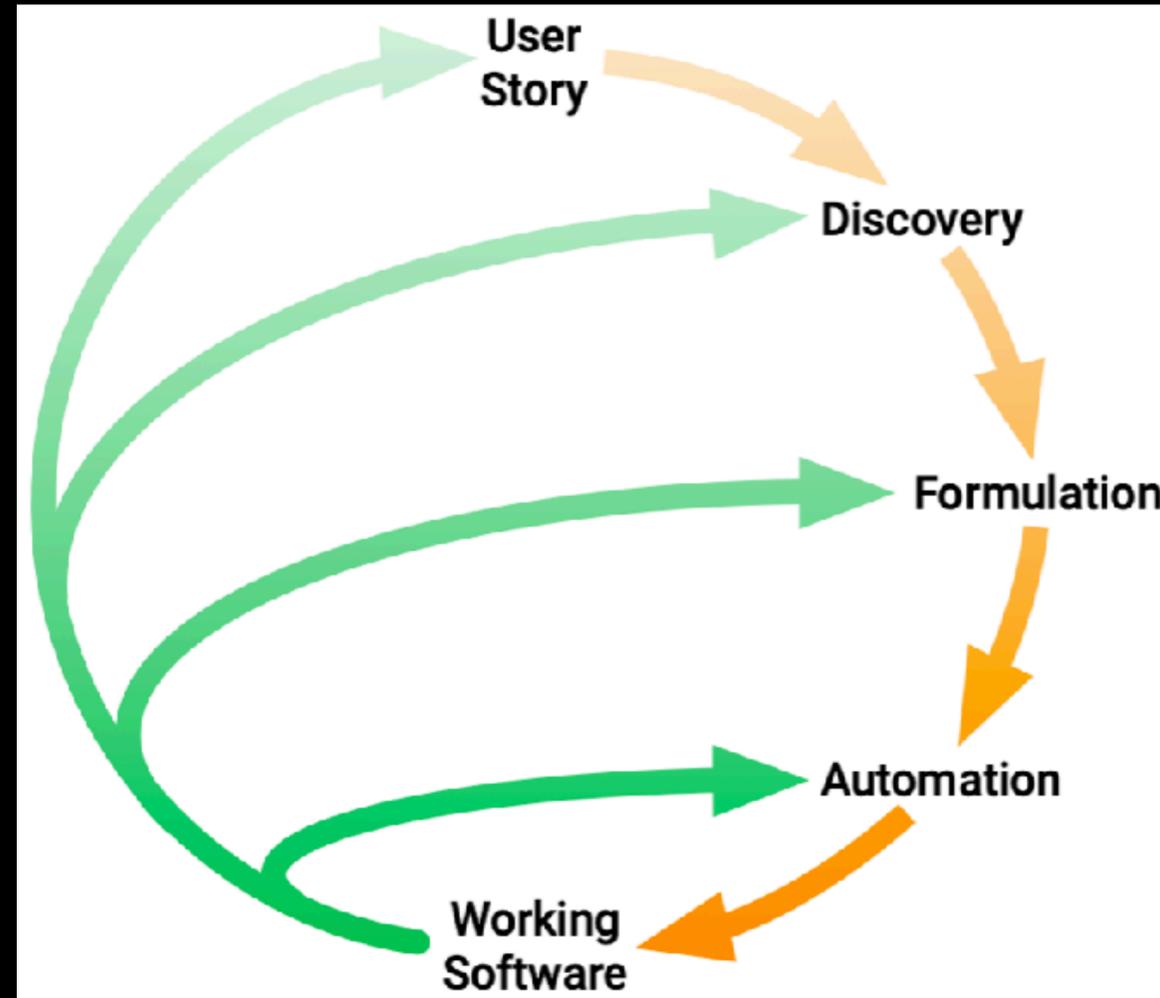


What are the benefits?

Early learning

Shared understanding

Faster feedback



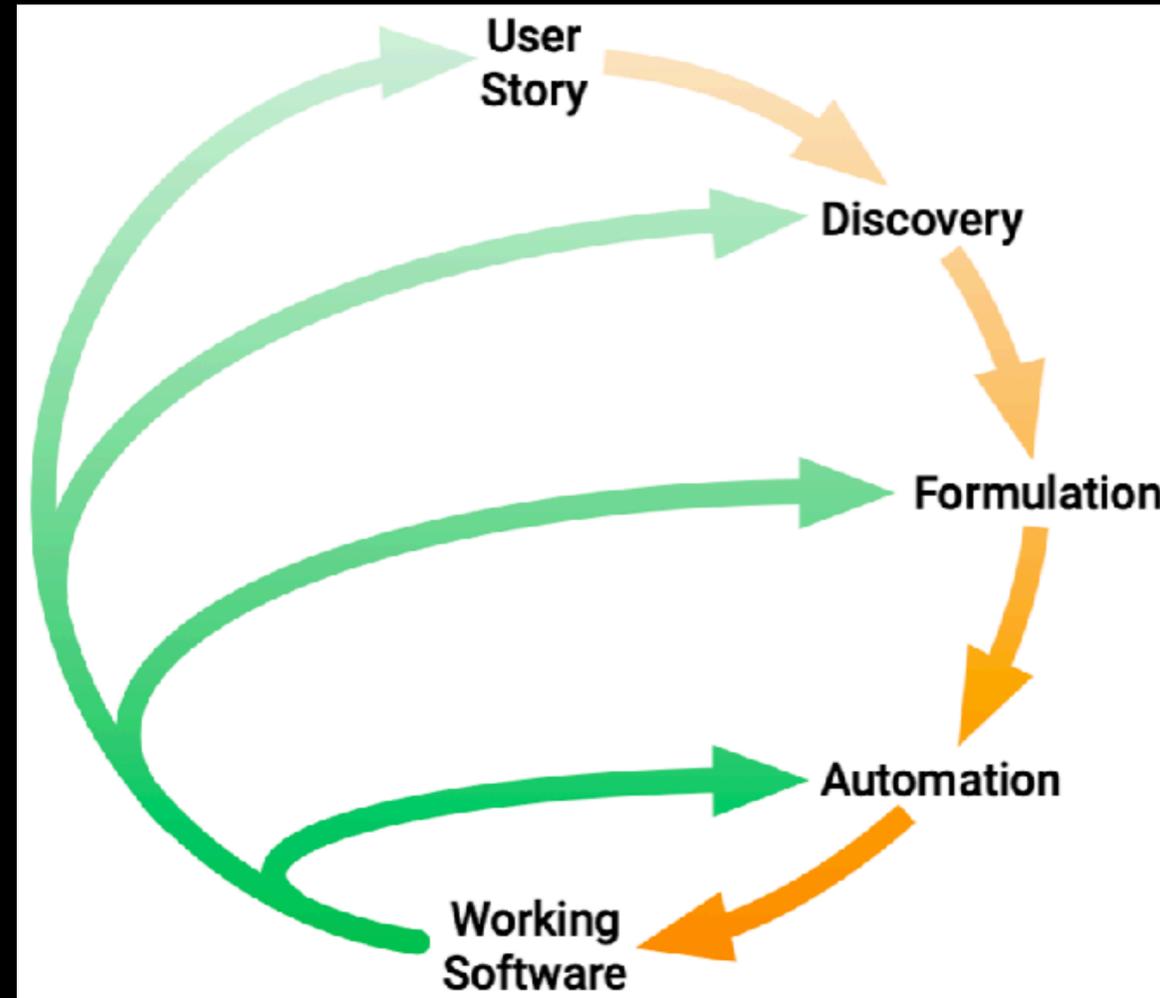


What are the benefits?

Early learning

Shared understanding

Faster feedback



Living documentation

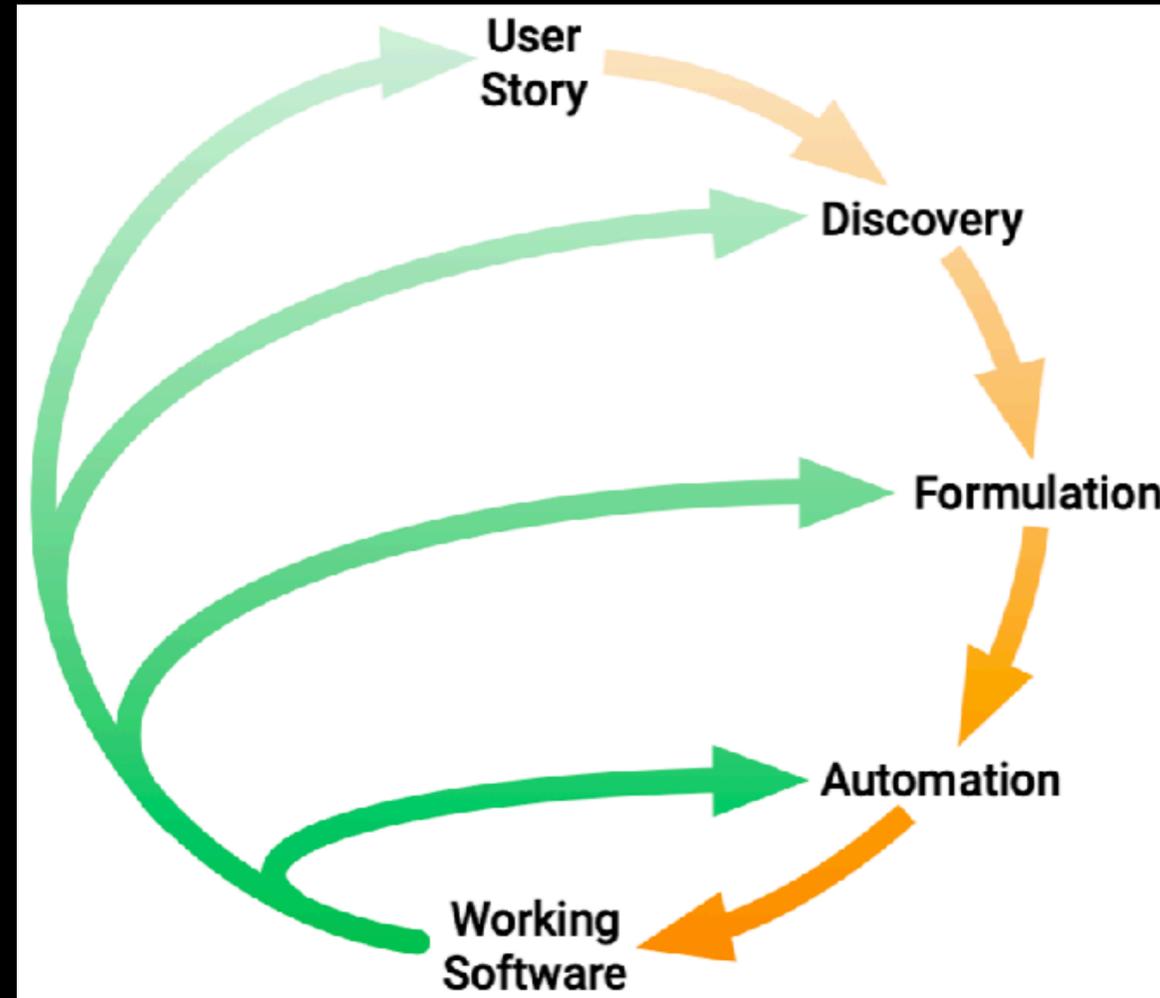


What are the benefits?

Early learning

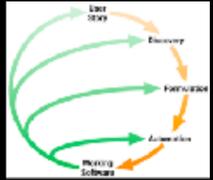
Shared understanding

Faster feedback



Living documentation

Higher quality

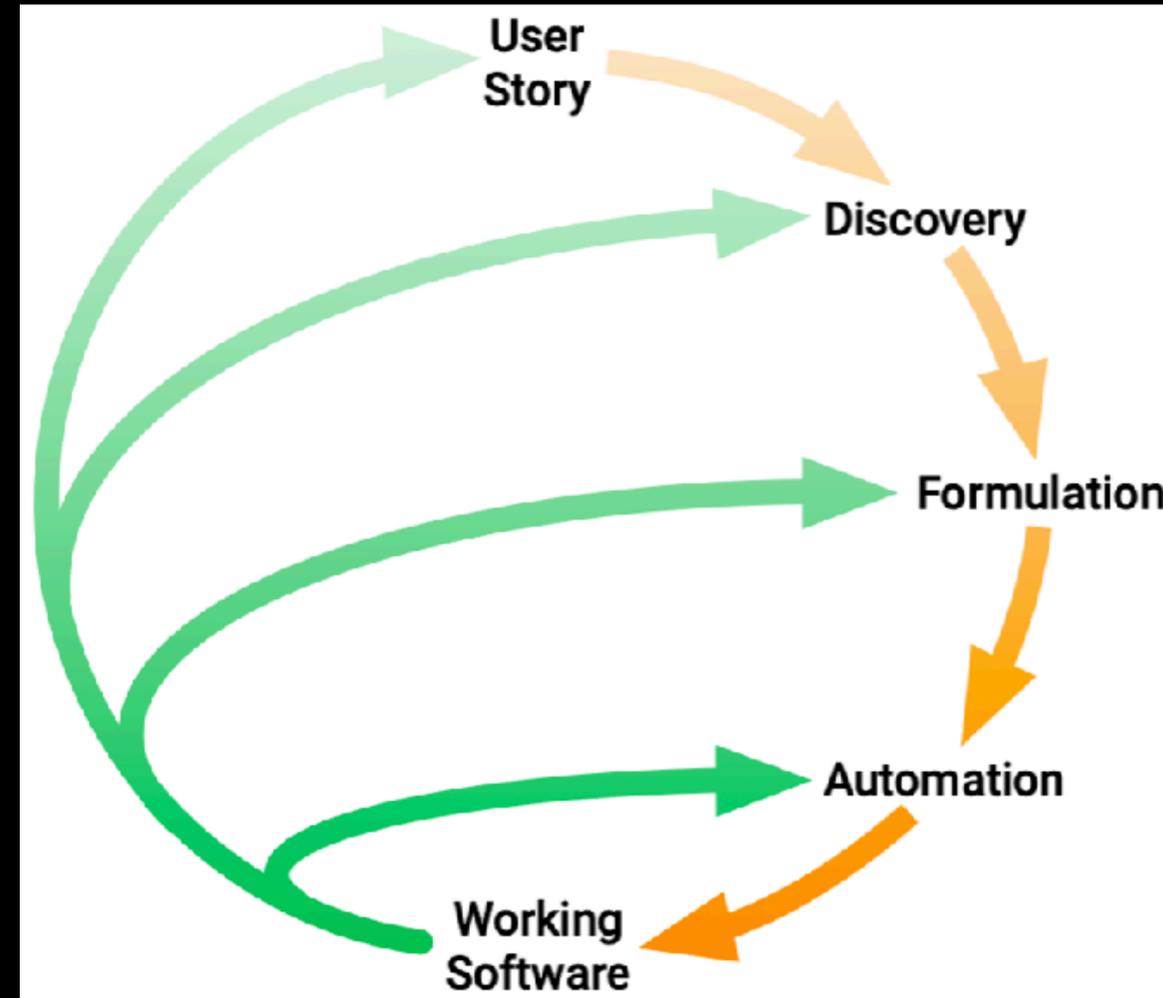


What are the benefits?

Early learning

Shared understanding

Faster feedback



Living documentation

Higher quality

Lower costs



What are the challenges?

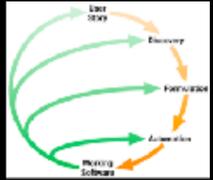
<https://twistedstiff.com/videos/tadpole-to-frog-animation-by-harry-warne/>

@sebrose

By Gary Todd - <https://www.flickr.com/photos/101561334@N08/28169055190/>

seb.rose@smartbear.com

<https://www.eso.org/public/images/potw1938a/>



What are the challenges?



**Change in
working practices**



What are the challenges?



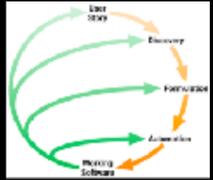
Change in working practices



Immature tooling

<https://twistedstiff.com/videos/tadpole-to-frog-animation-by-harry-warne/>

<https://www.eso.org/public/images/potw1938a/>



What are the challenges?



Change in working practices



Immature tooling



Other automated testing needed

<https://twistedstiff.com/videos/tadpole-to-frog-animation-by-harry-warne/>

<https://www.eso.org/public/images/potw1938a/>



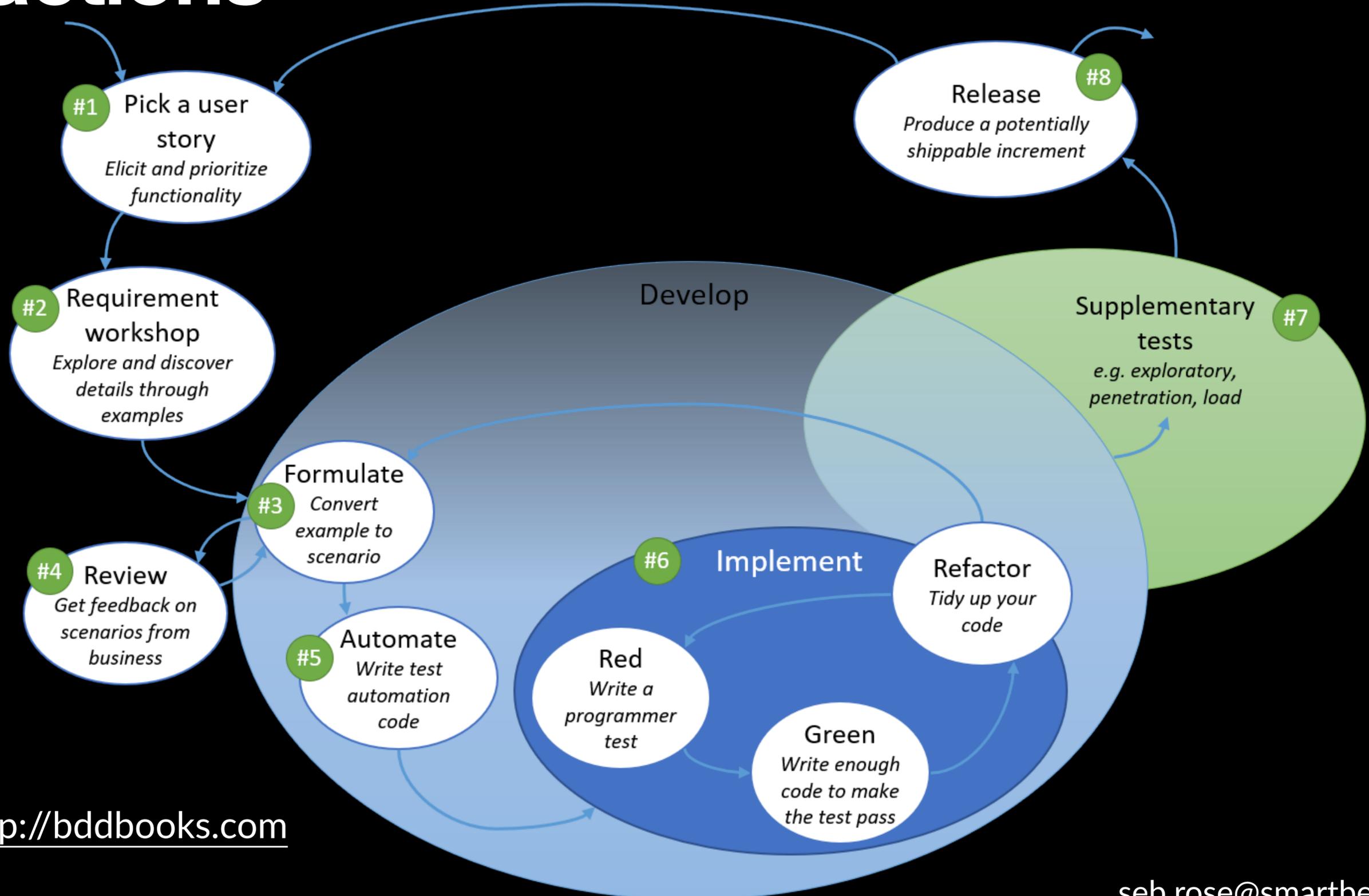
Interactions

Business

Architecture, Design

Development & Testing

Test Automation



<http://bddbooks.com>



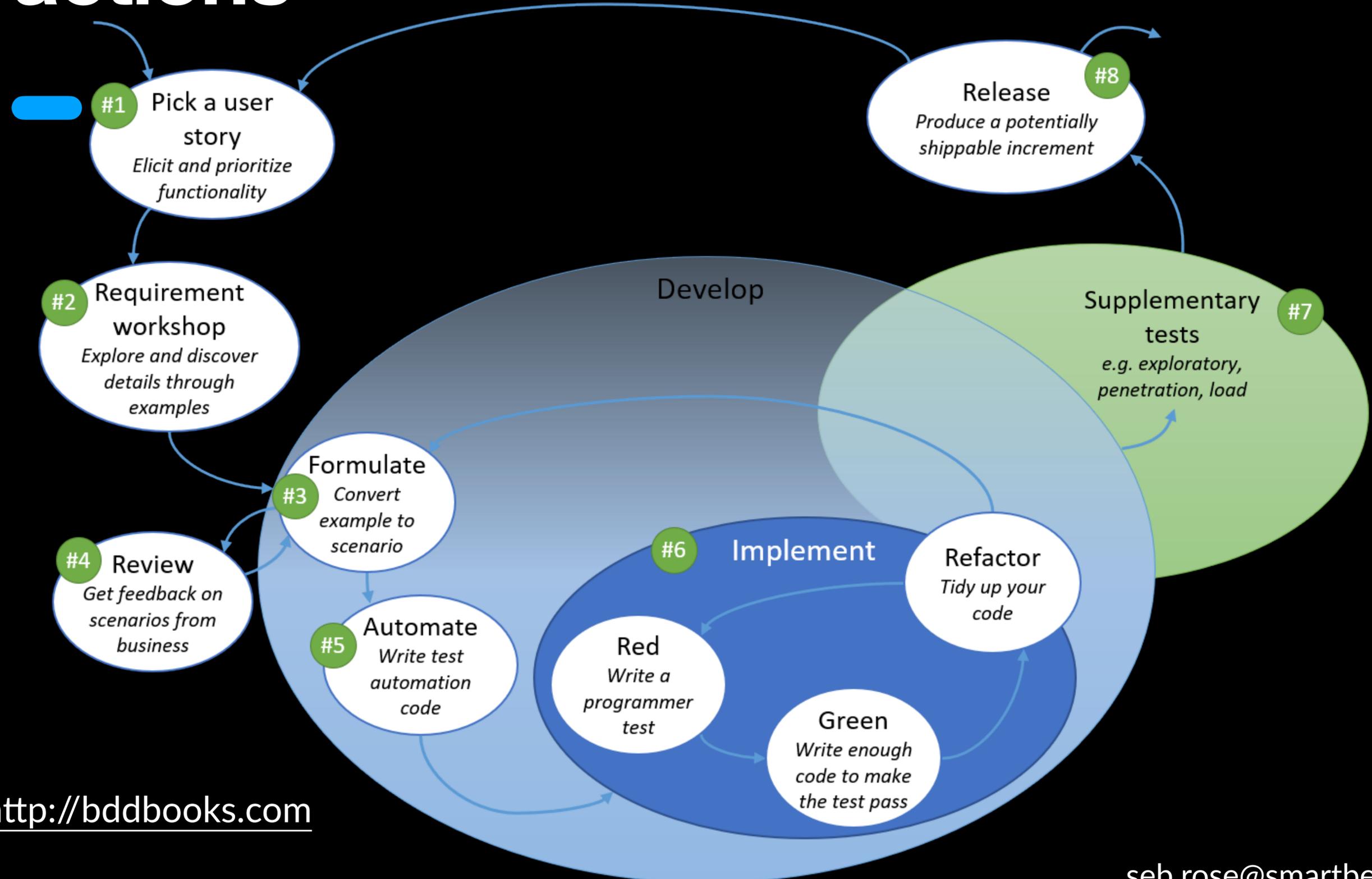
Interactions

Business

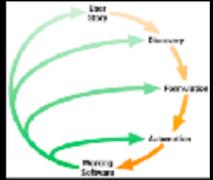
Architecture, Design

Development & Testing

Test Automation



<http://bddbooks.com>



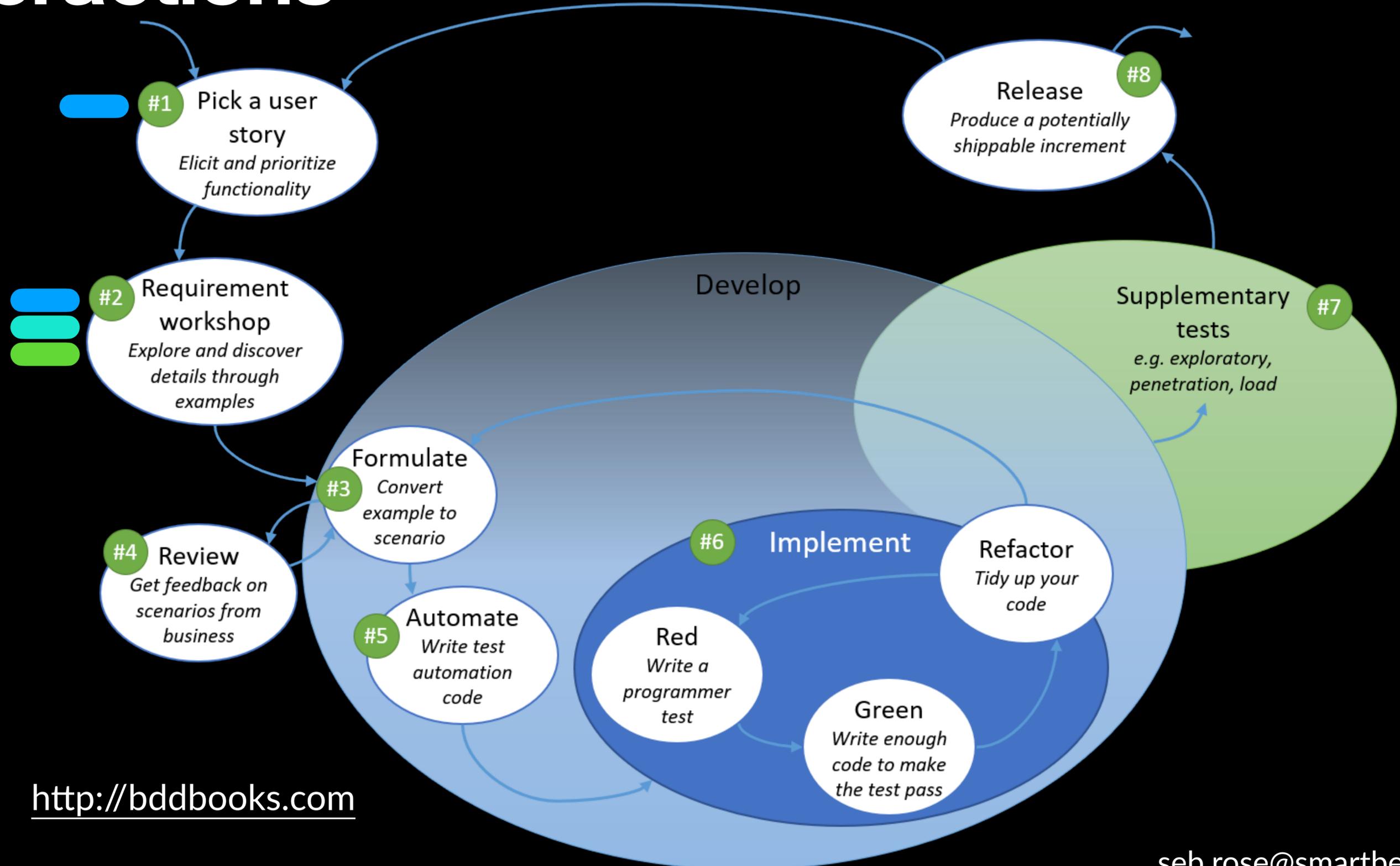
Interactions

Business

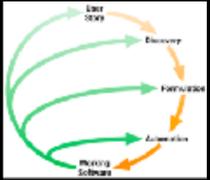
Architecture, Design

Development & Testing

Test Automation

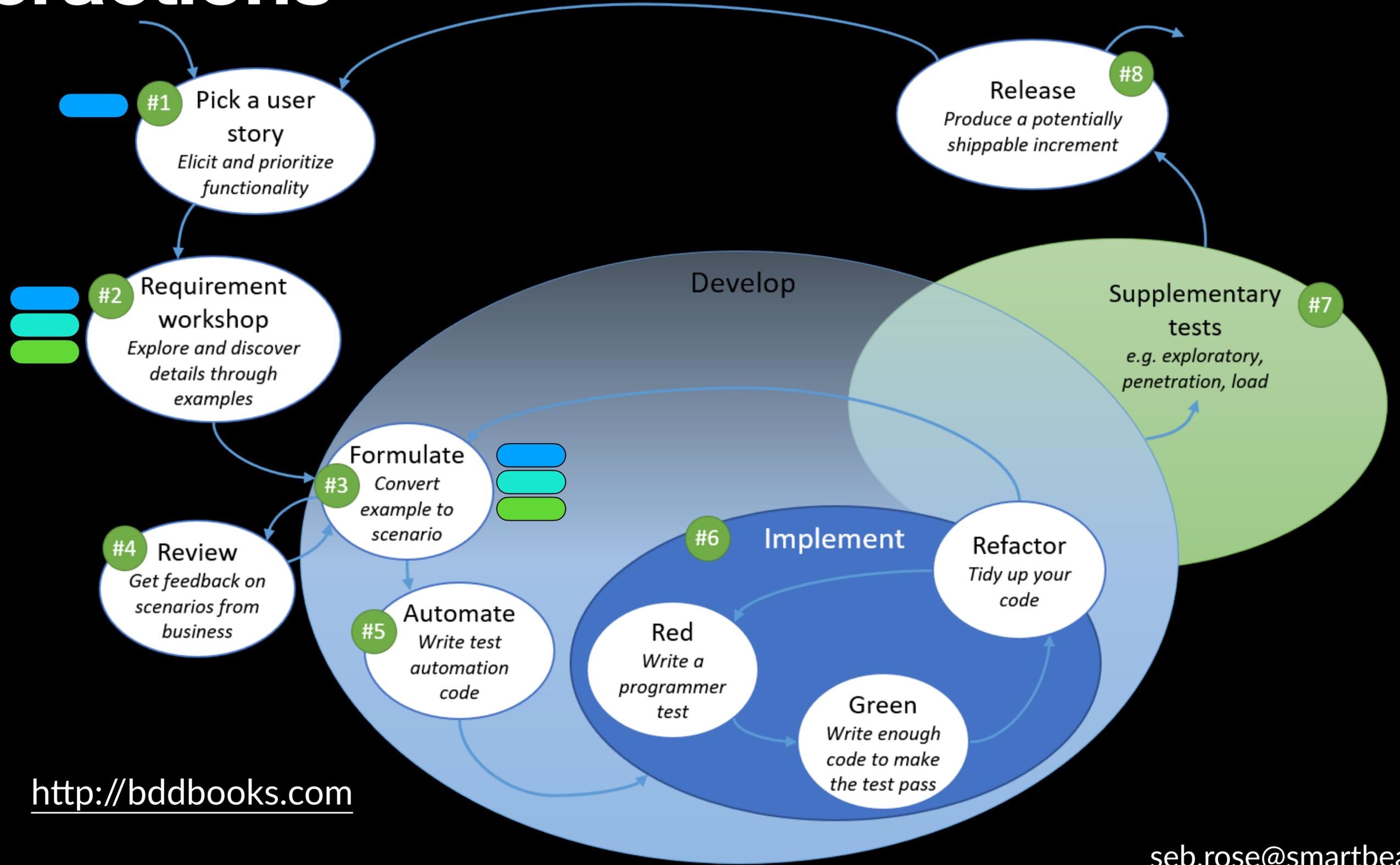


<http://bddbooks.com>



Interactions

- Business
- Architecture, Design
- Development & Testing
- Test Automation

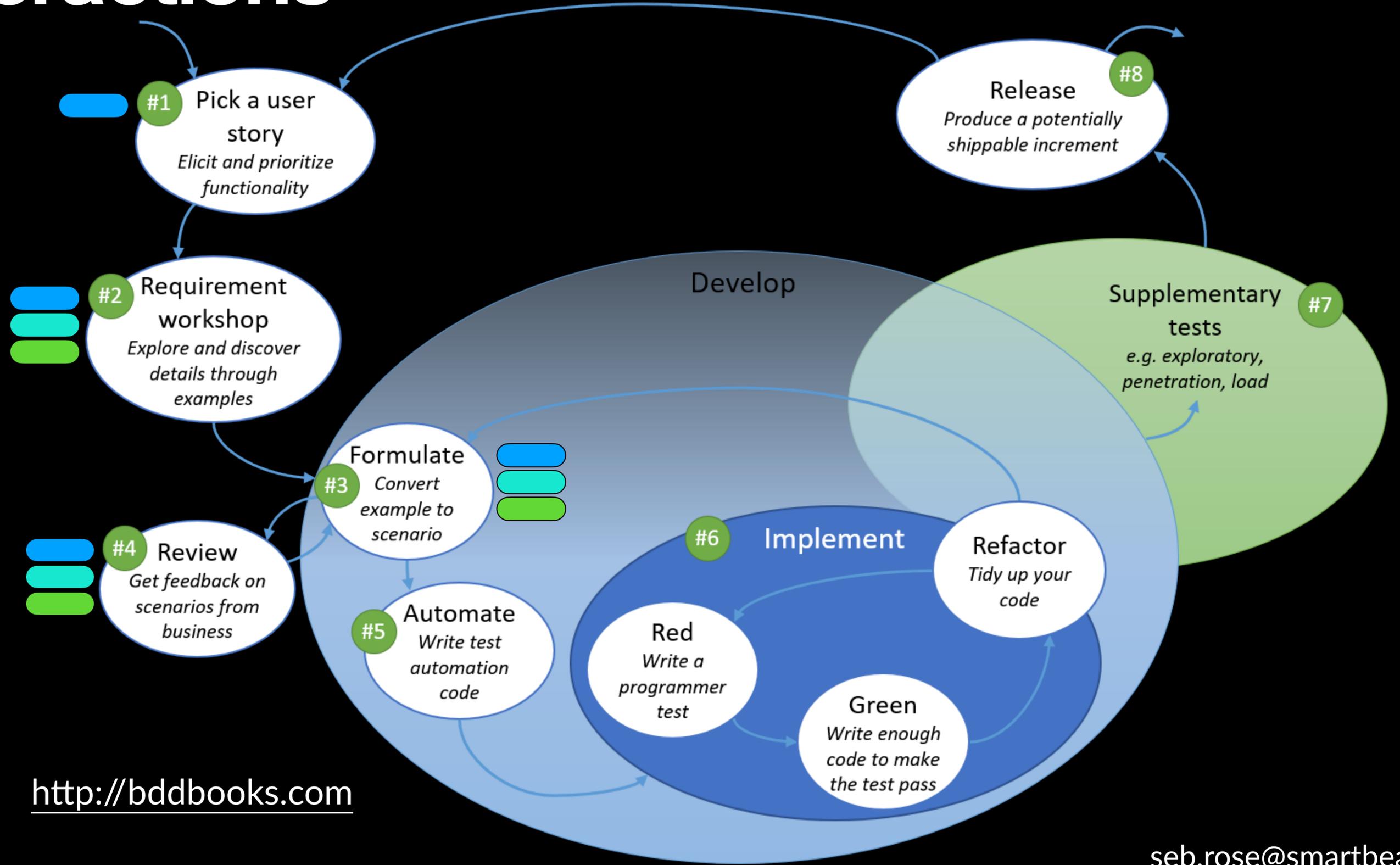


<http://bddbooks.com>



Interactions

- Business
- Architecture, Design
- Development & Testing
- Test Automation

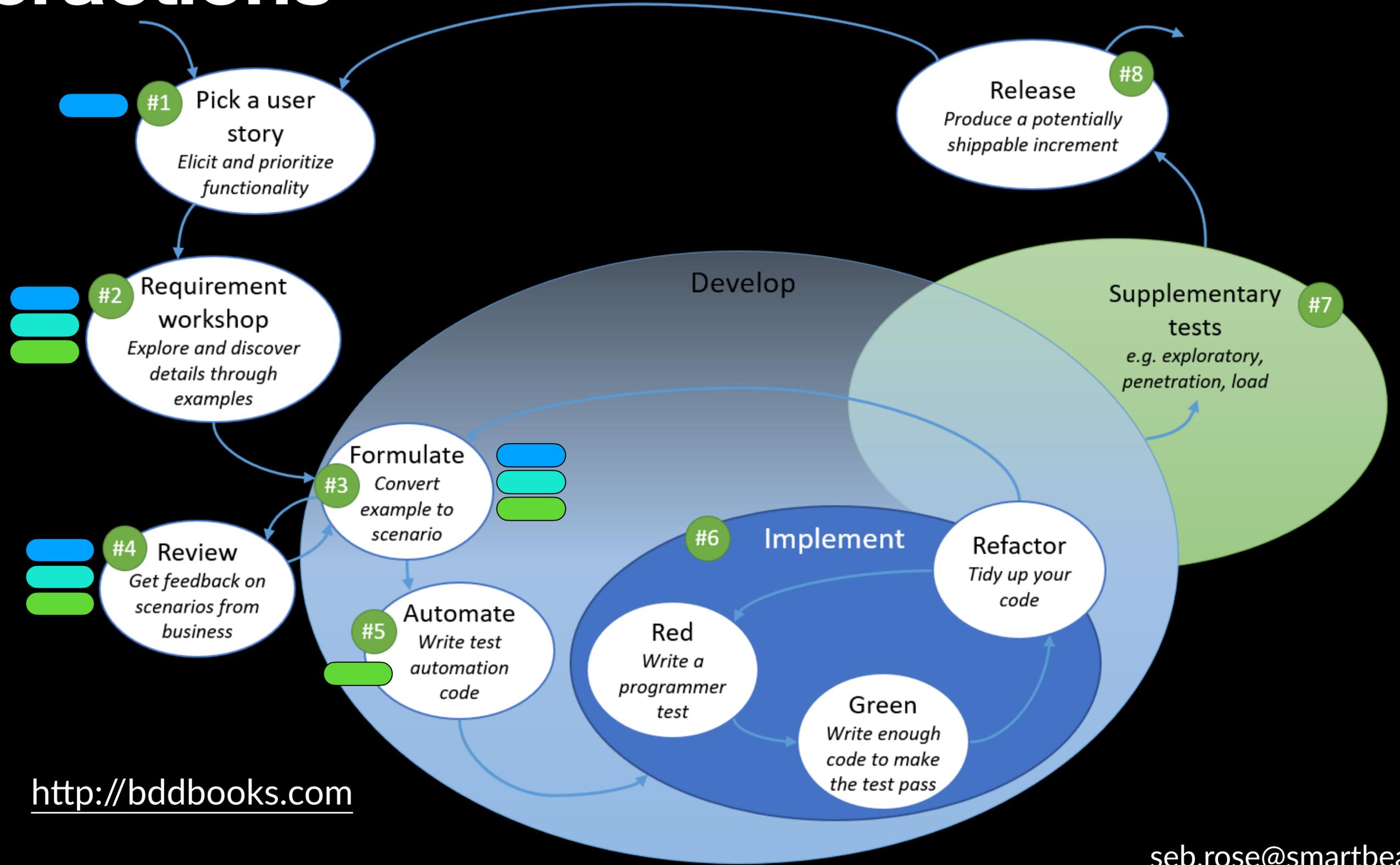


<http://bddbooks.com>

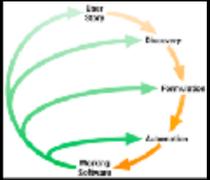


Interactions

- Business
- Architecture, Design
- Development & Testing
- Test Automation

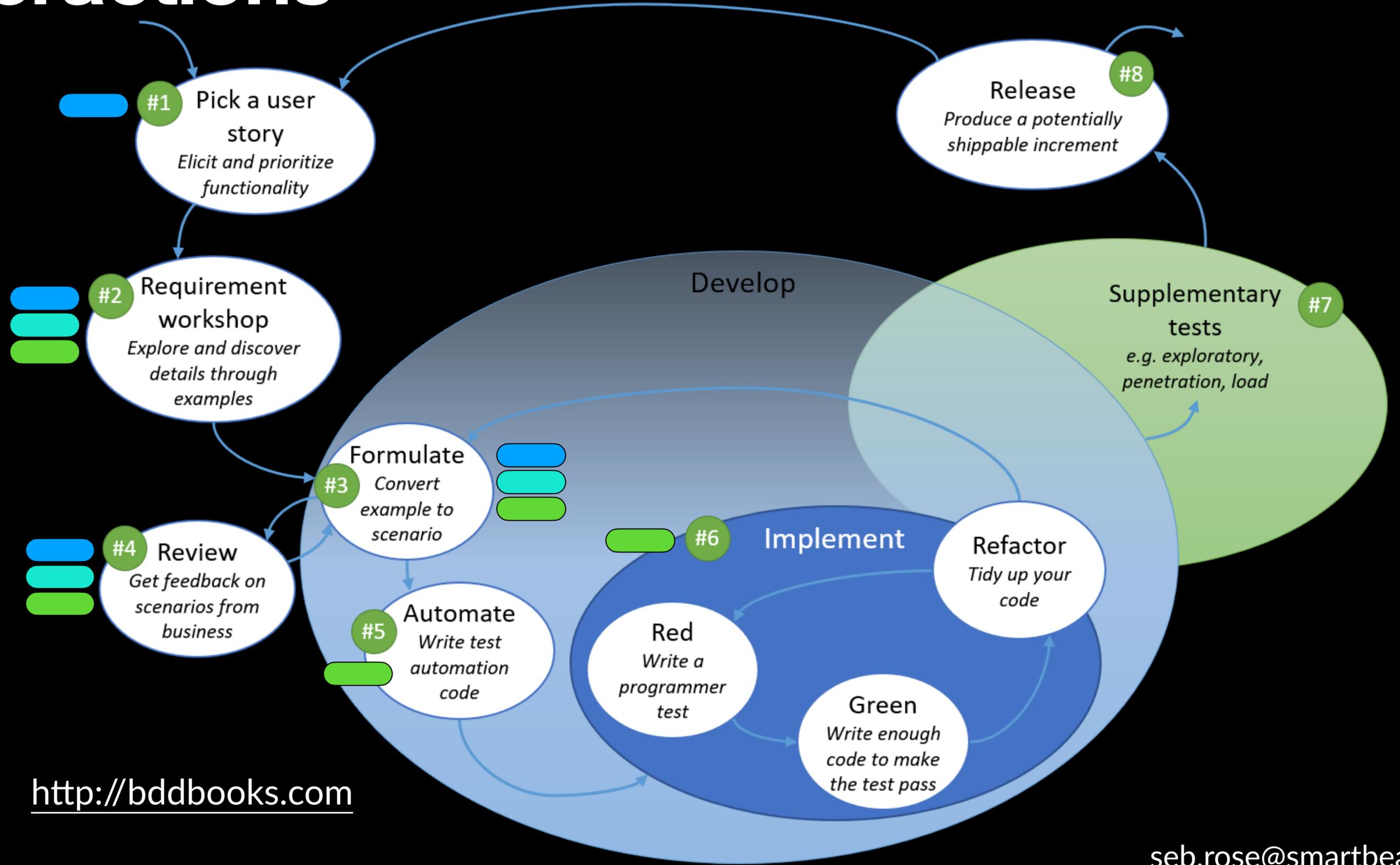


<http://bddbooks.com>

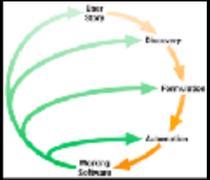


Interactions

- Business
- Architecture, Design
- Development & Testing
- Test Automation



<http://bddbooks.com>



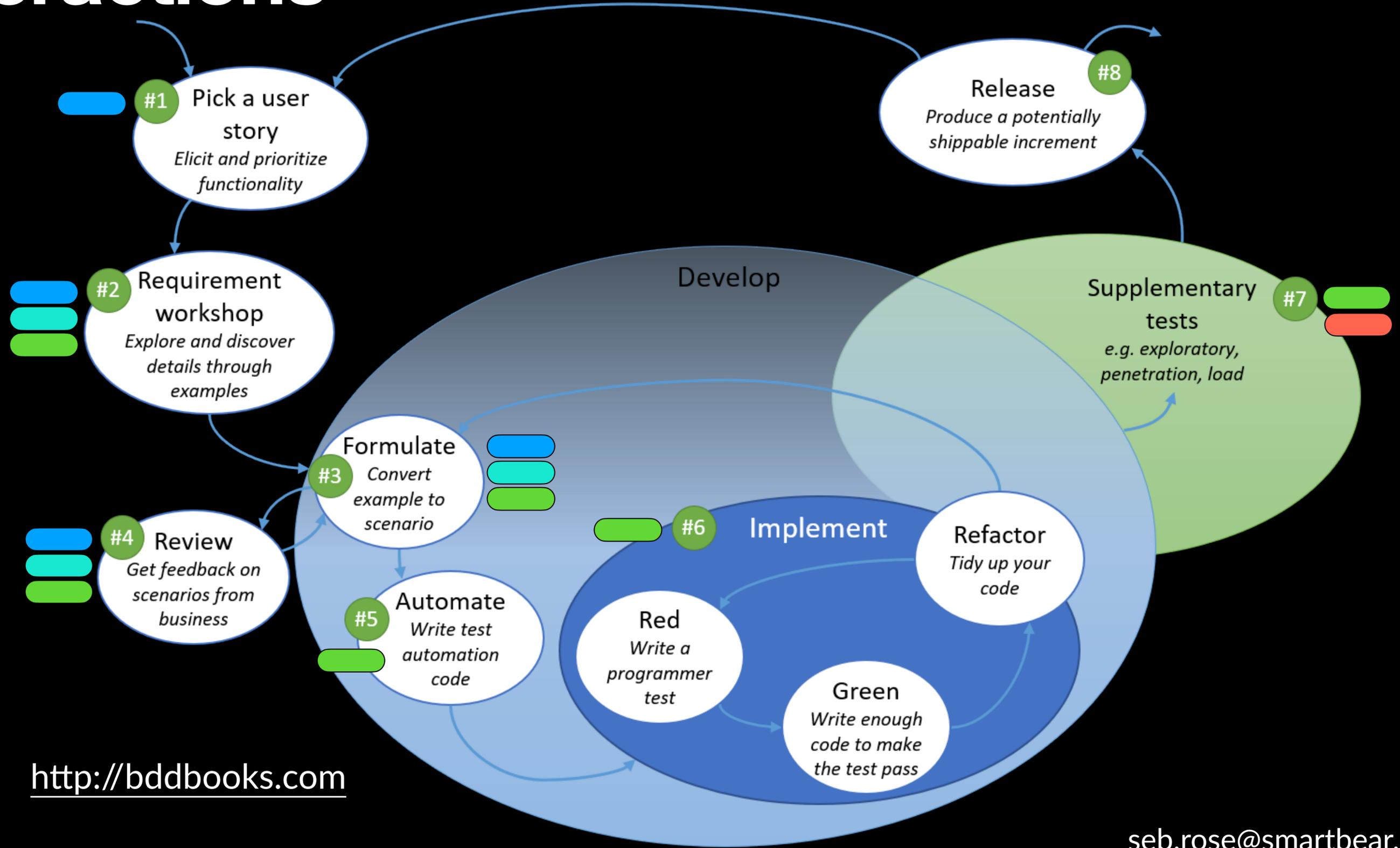
Interactions

Business

Architecture, Design

Development & Testing

Test Automation

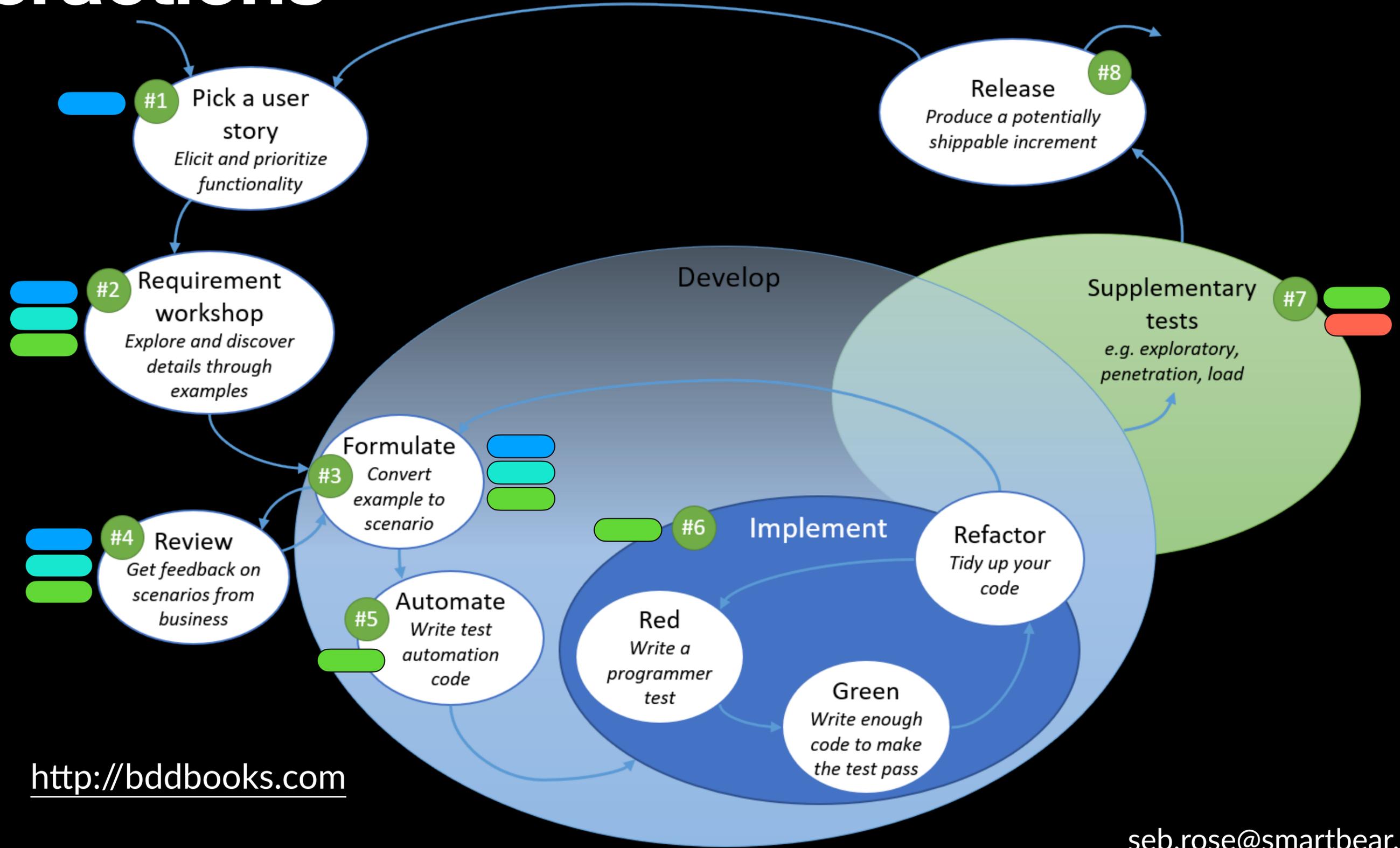


<http://bddbooks.com>



Interactions

- Business
- Architecture, Design
- Delivery team
- Test Automation



<http://bddbooks.com>

Agenda

Interactions over tools

Test automation

Behaviour-driven development

Compare and contrast

Shift left

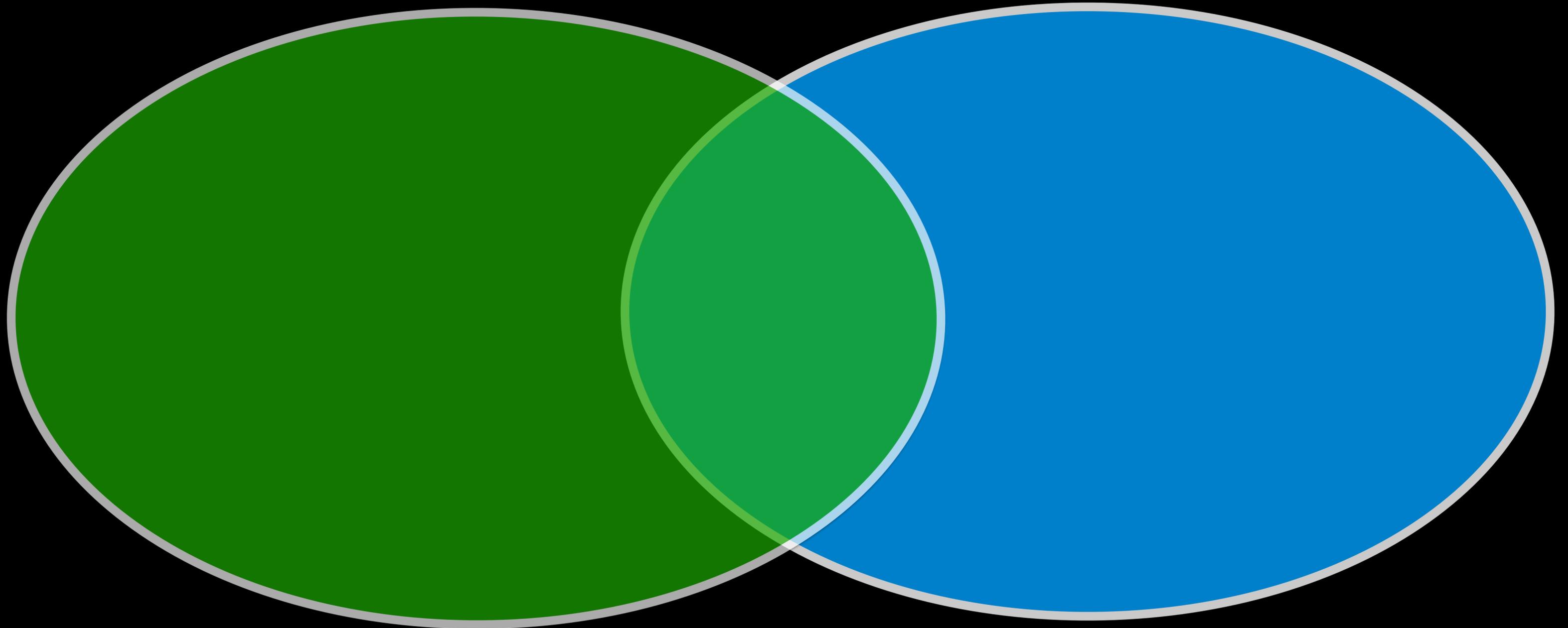
Confusion

Wrap-up

Comparison

BDD

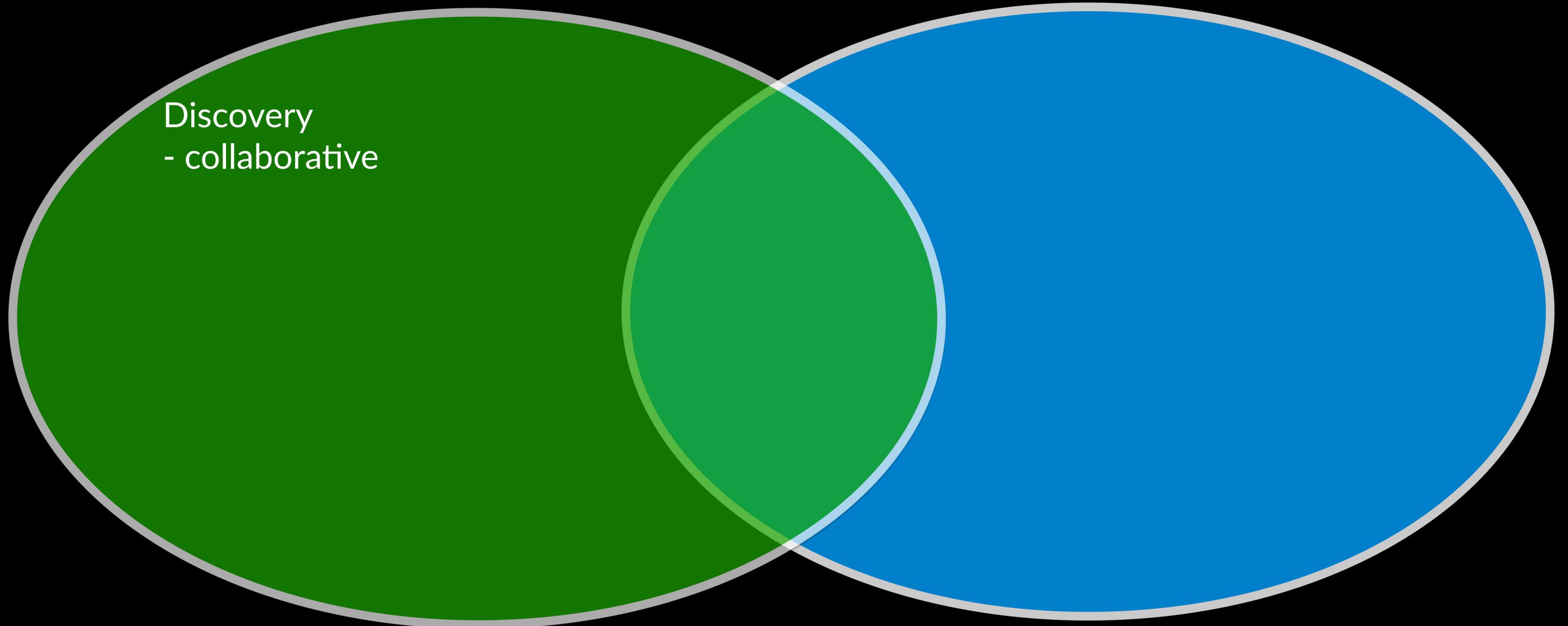
Test-automation



Comparison

BDD

Test-automation

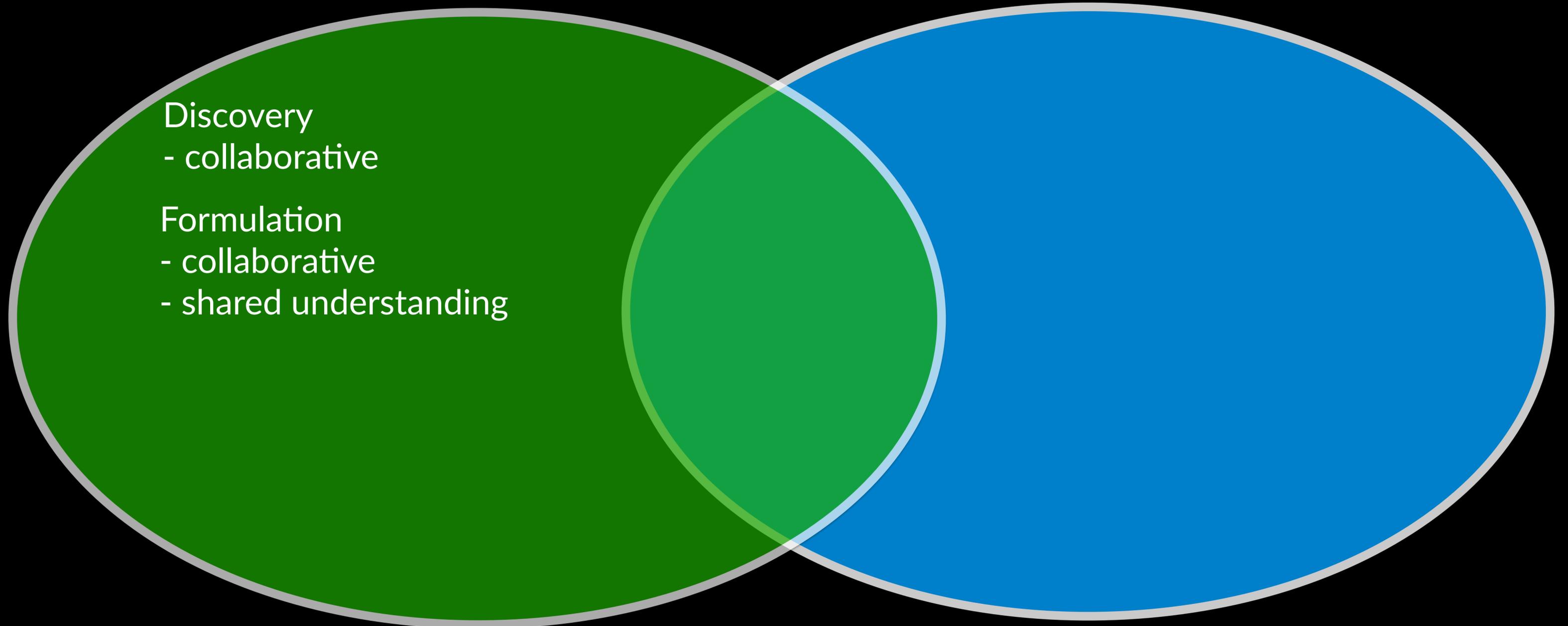


Discovery
- collaborative

Comparison

BDD

Test-automation



Comparison

BDD

Test-automation

Discovery
- collaborative

Formulation
- collaborative
- shared understanding

Automation
- by/with developers
- guides coding
- living documentation
- other testing needed

Comparison

BDD

Test-automation

Discovery
- collaborative

Formulation
- collaborative
- shared understanding

Automation
- by/with developers
- guides coding
- living documentation
- other testing needed

Automation
- after/in parallel to coding
- often siloed
- performance/penetration etc.
- not necessarily business-readable

Comparison

BDD

Test-automation

Discovery
- collaborative

Formulation
- collaborative
- shared understanding

Automation
- by/with developers
- guides coding
- living documentation
- other testing needed

Automated,
business-
readable
acceptance
tests

Automation
- after/in parallel to coding
- often siloed
- performance/penetration etc.
- not necessarily business-readable

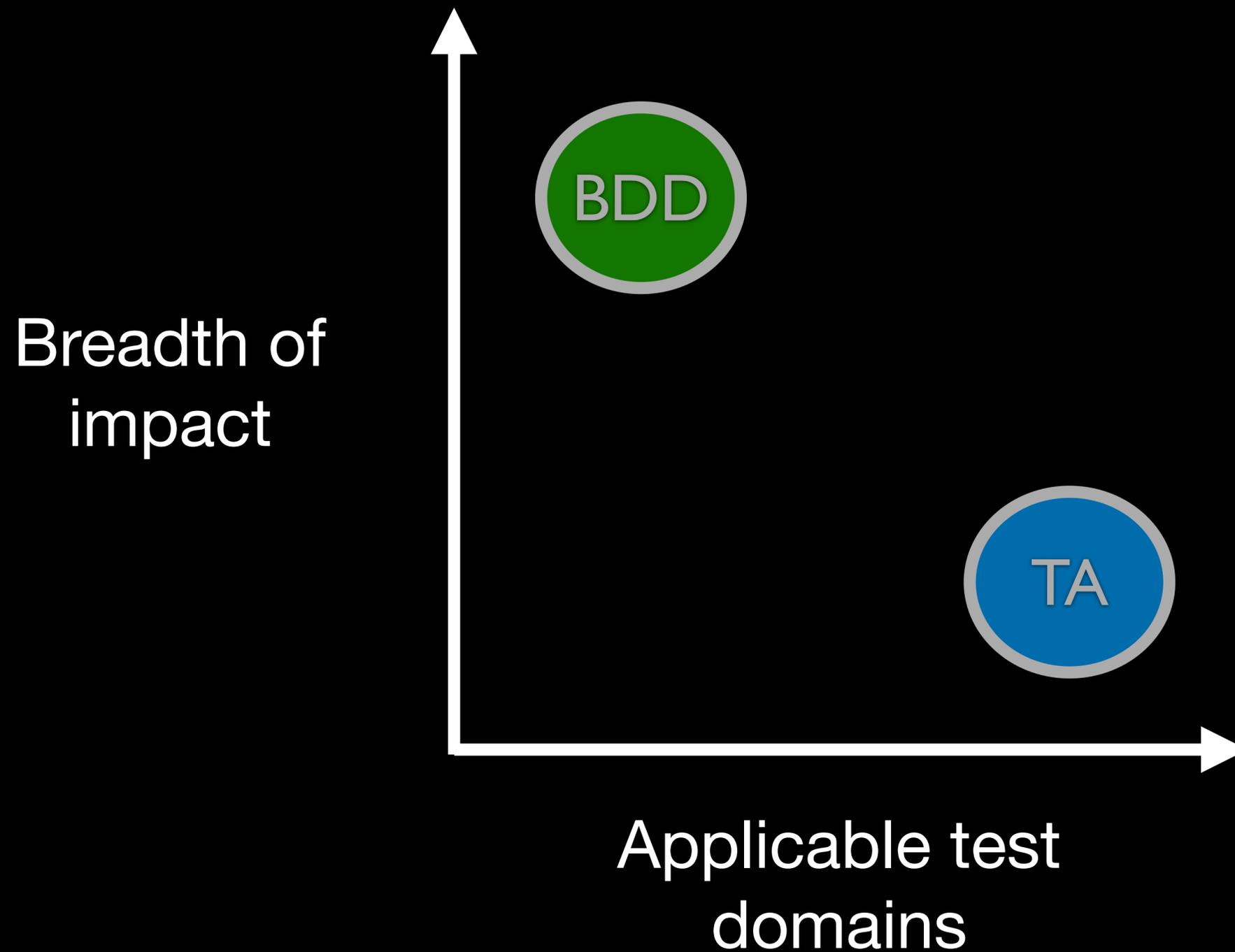
Prevalence

BDD

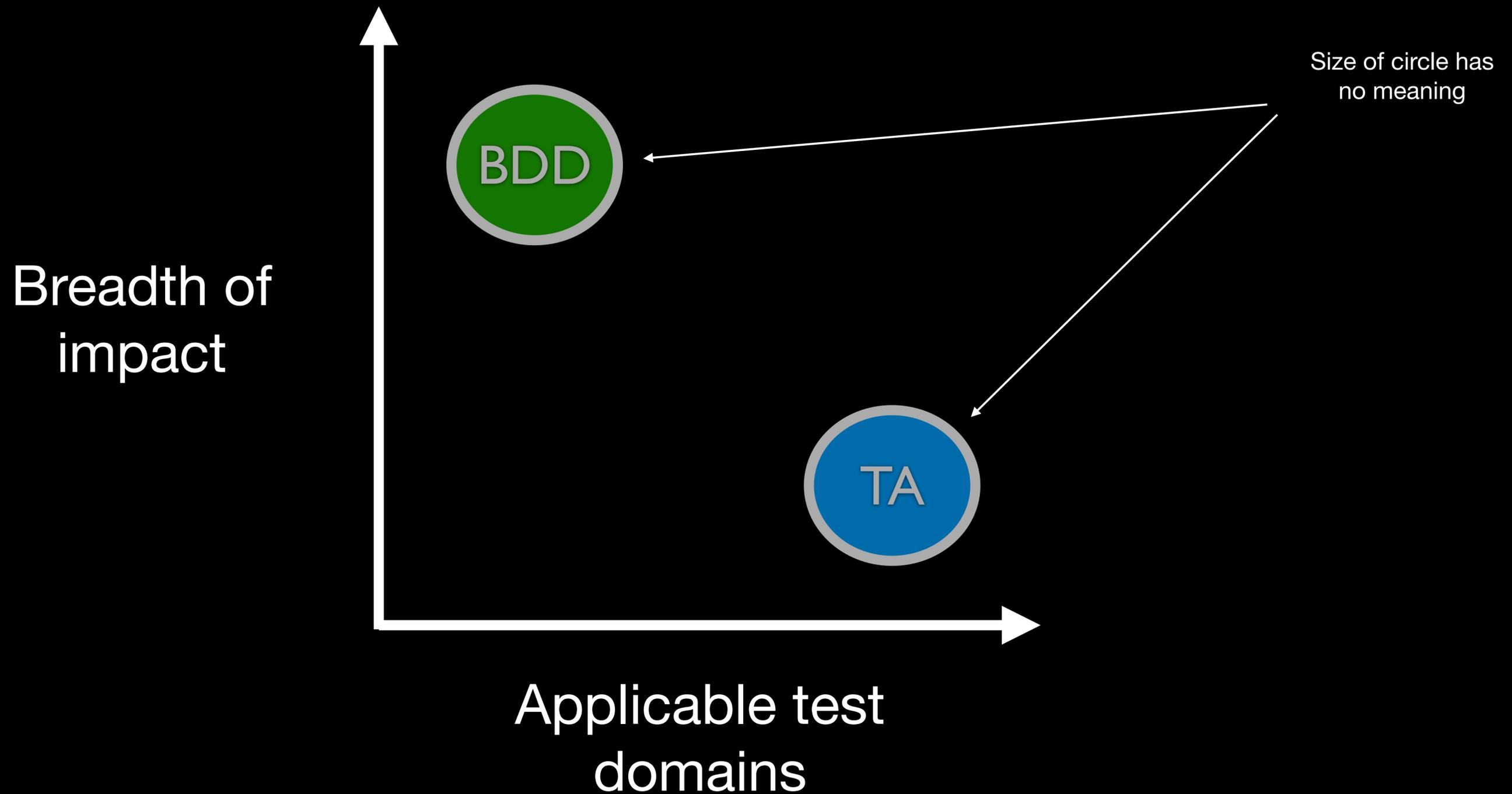
Test-automation



Executive summary



Executive summary



Agenda

Interactions over tools

Test automation

Behaviour-driven development

Compare and contrast

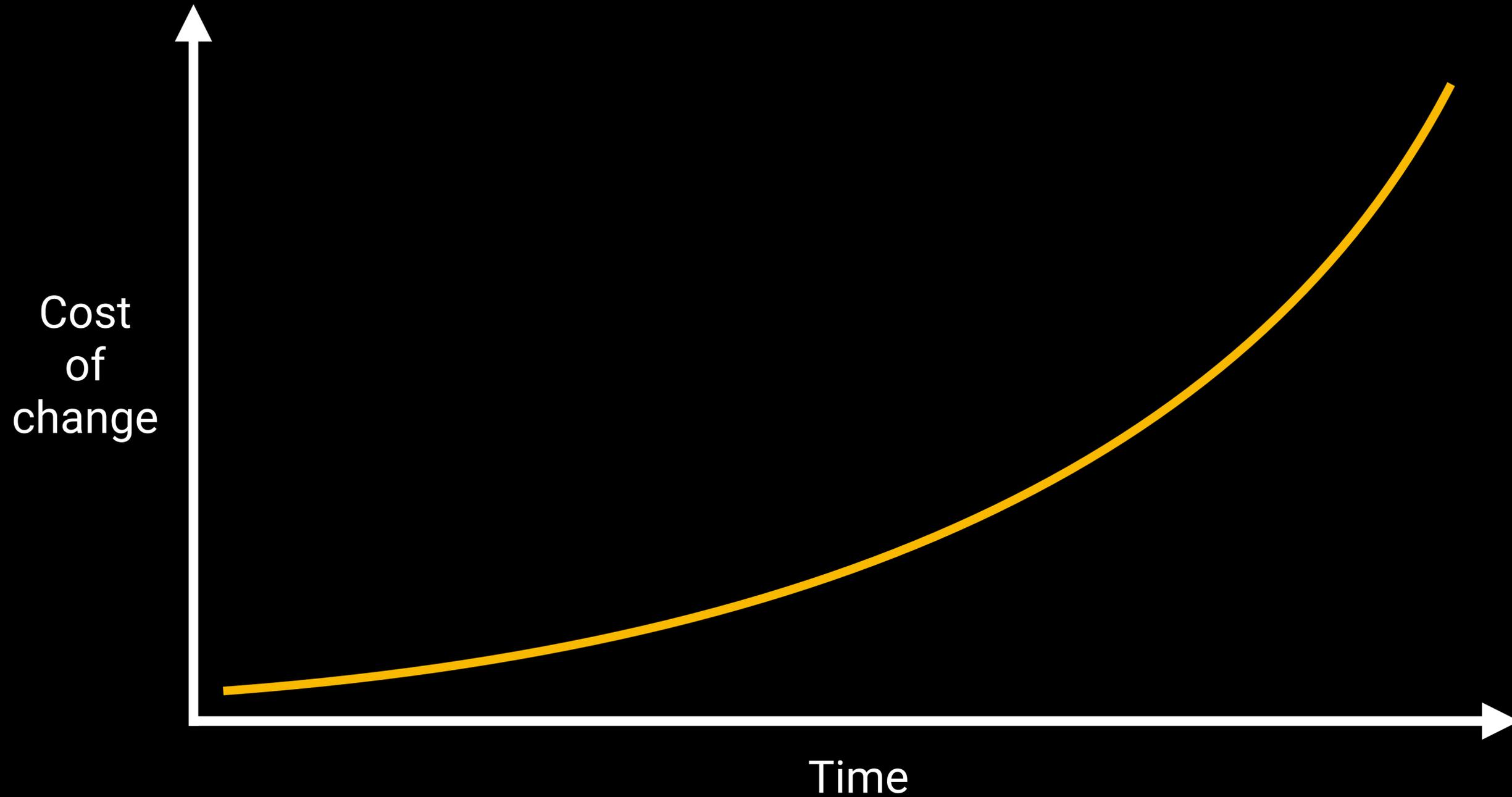
Shift left

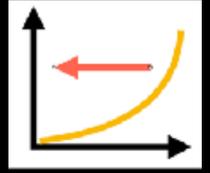
Confusion

Wrap-up

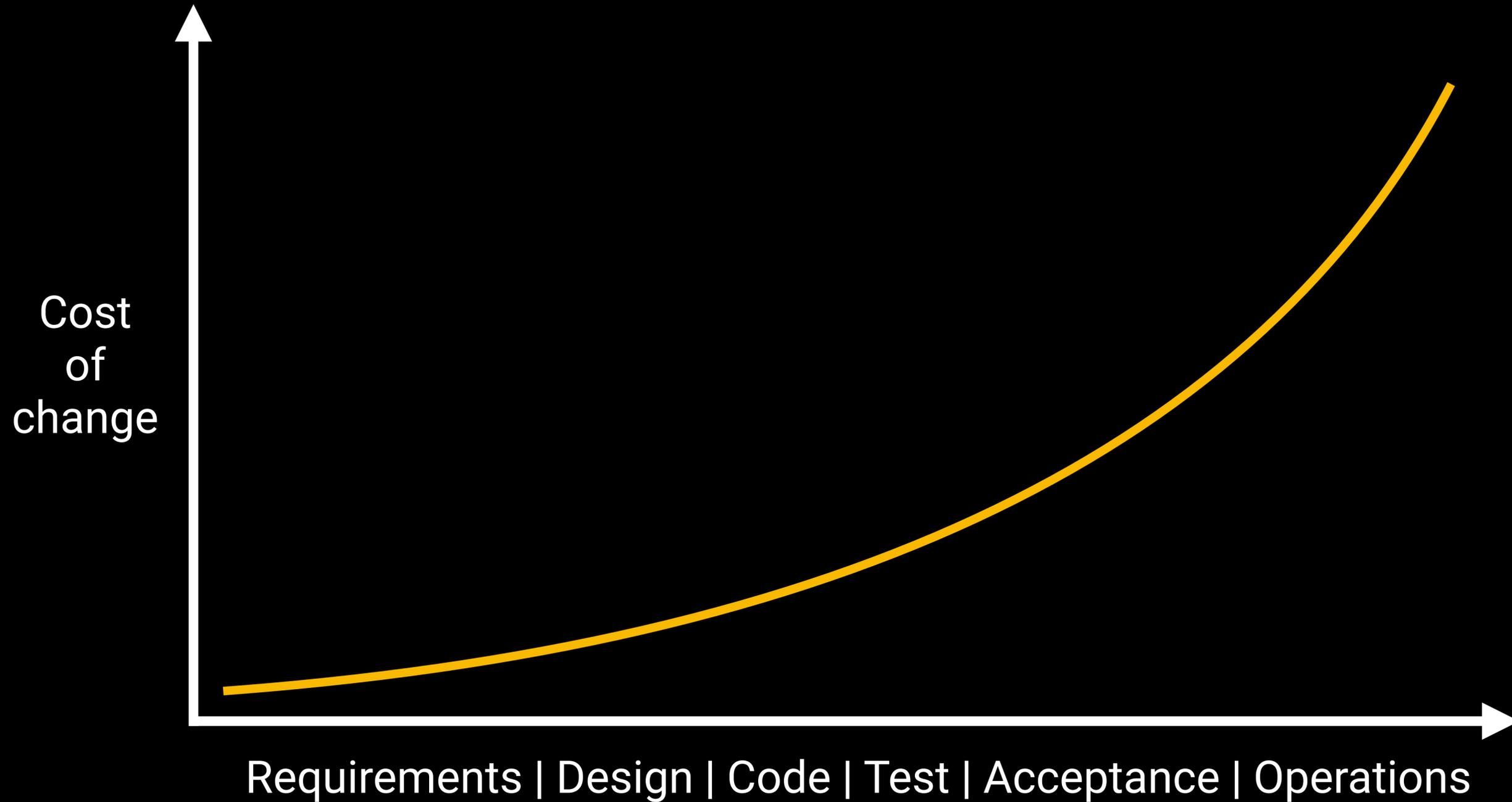


Cost of change curve

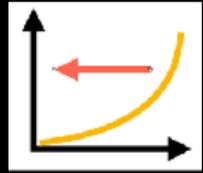




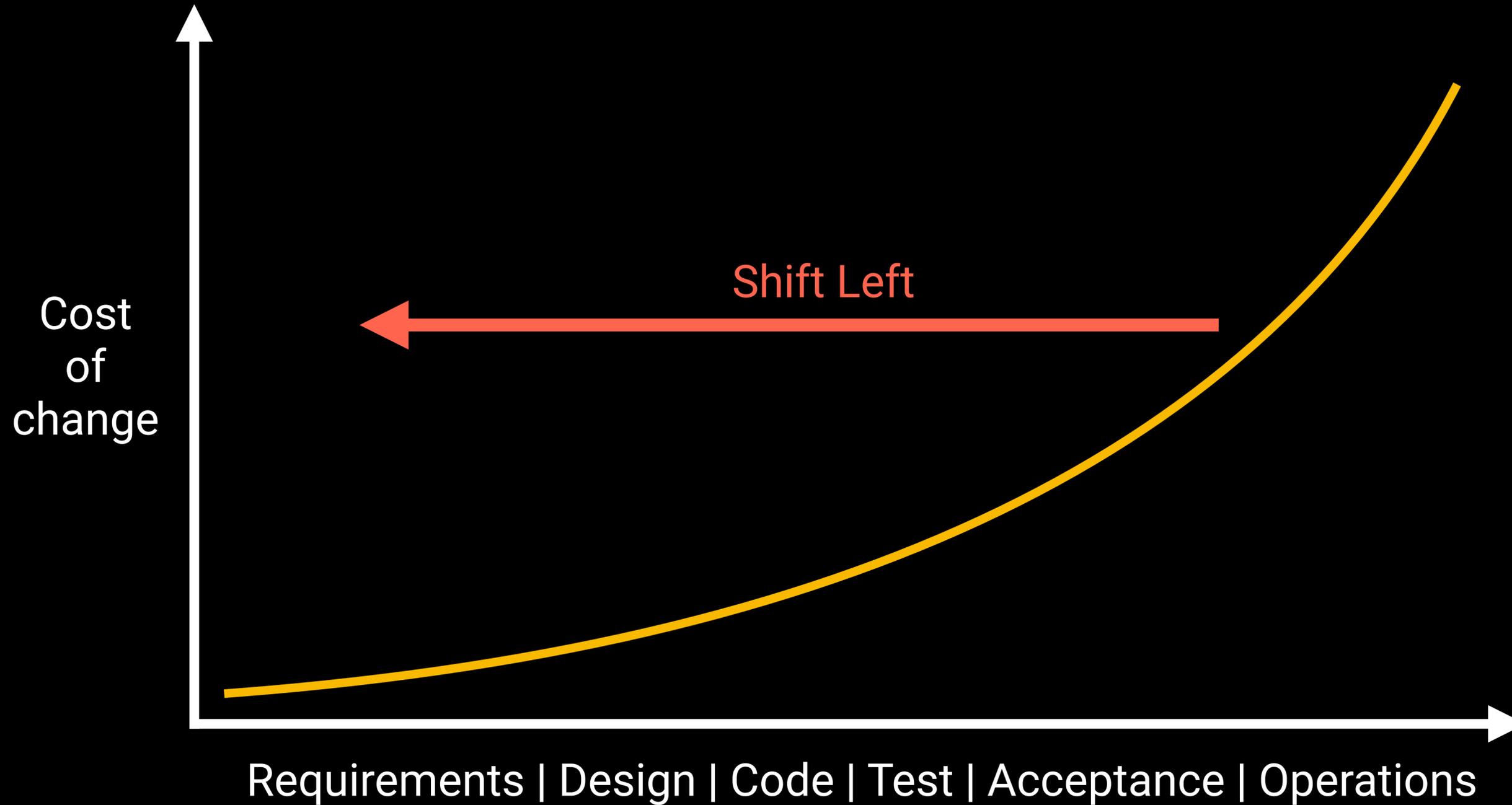
Cost of change curve



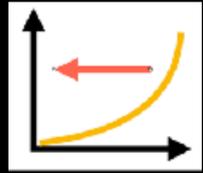
<https://www.amazon.co.uk/Engineering-Economics-Prentice-Hall-Computing-Technology/dp/0138221227>



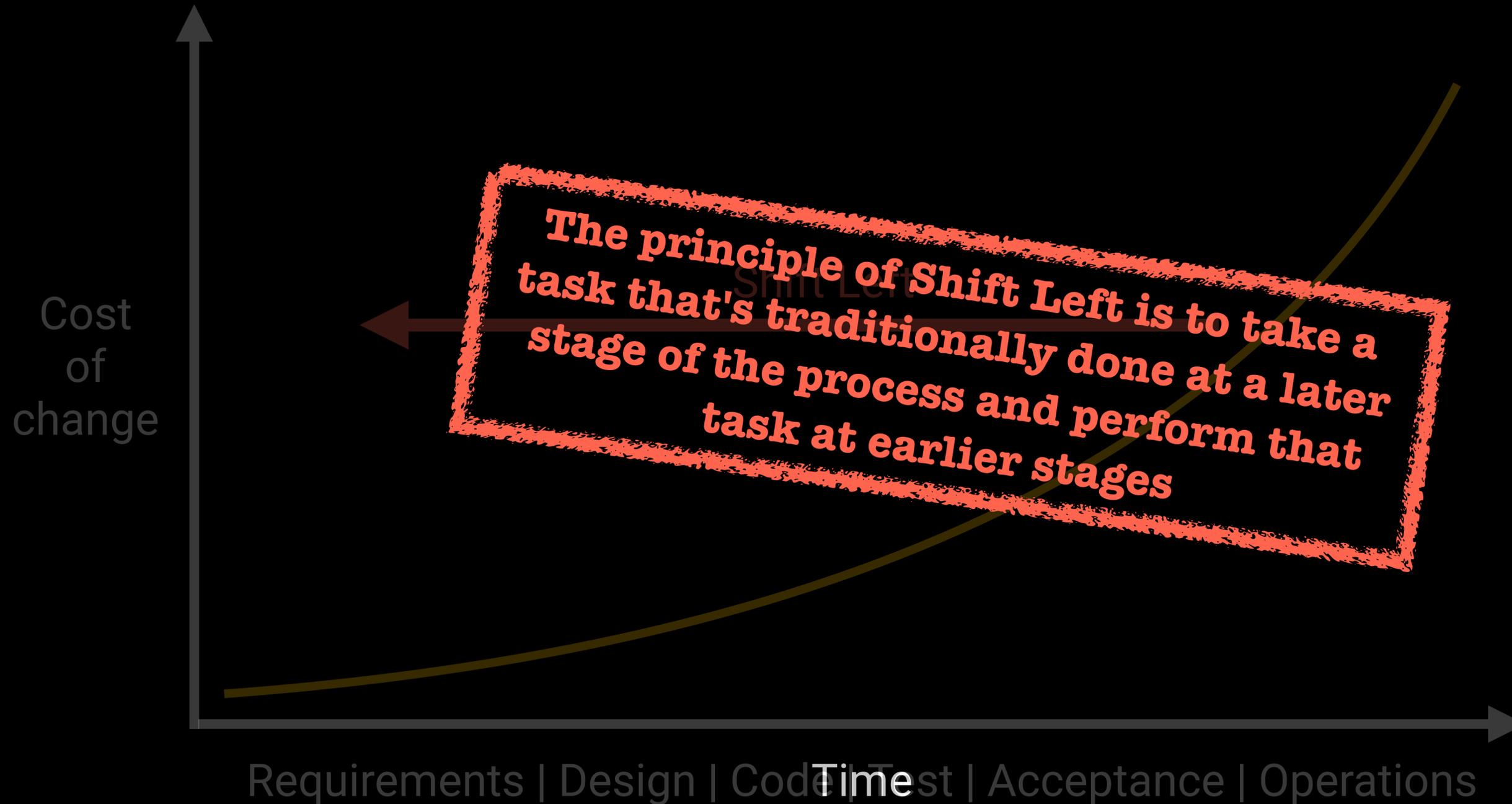
Cost of change curve



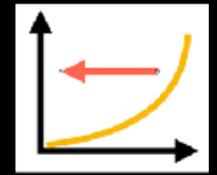
<https://www.amazon.co.uk/Engineering-Economics-Prentice-Hall-Computing-Technology/dp/0138221227>



Cost of change curve



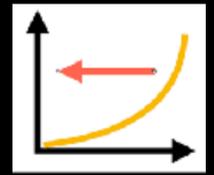
<https://www.amazon.co.uk/Engineering-Economics-Prentice-Hall-Computing-Technology/dp/0138221227>



Shift Left Testing?

Can we test ...

?



Shift Left Testing?

Can we test ...

Requirements

Performance

Contracts

Design

Code

Tests

?



Shift Left Testing?

Can we test ...

Requirements

Performance

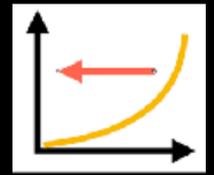
Contracts

Design

Code

Tests

?



Shift Left Testing?

Can we test ...

Requirements

Performance

Contracts

Design

Code

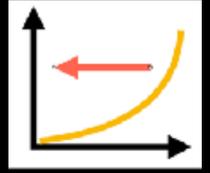
Tests

?

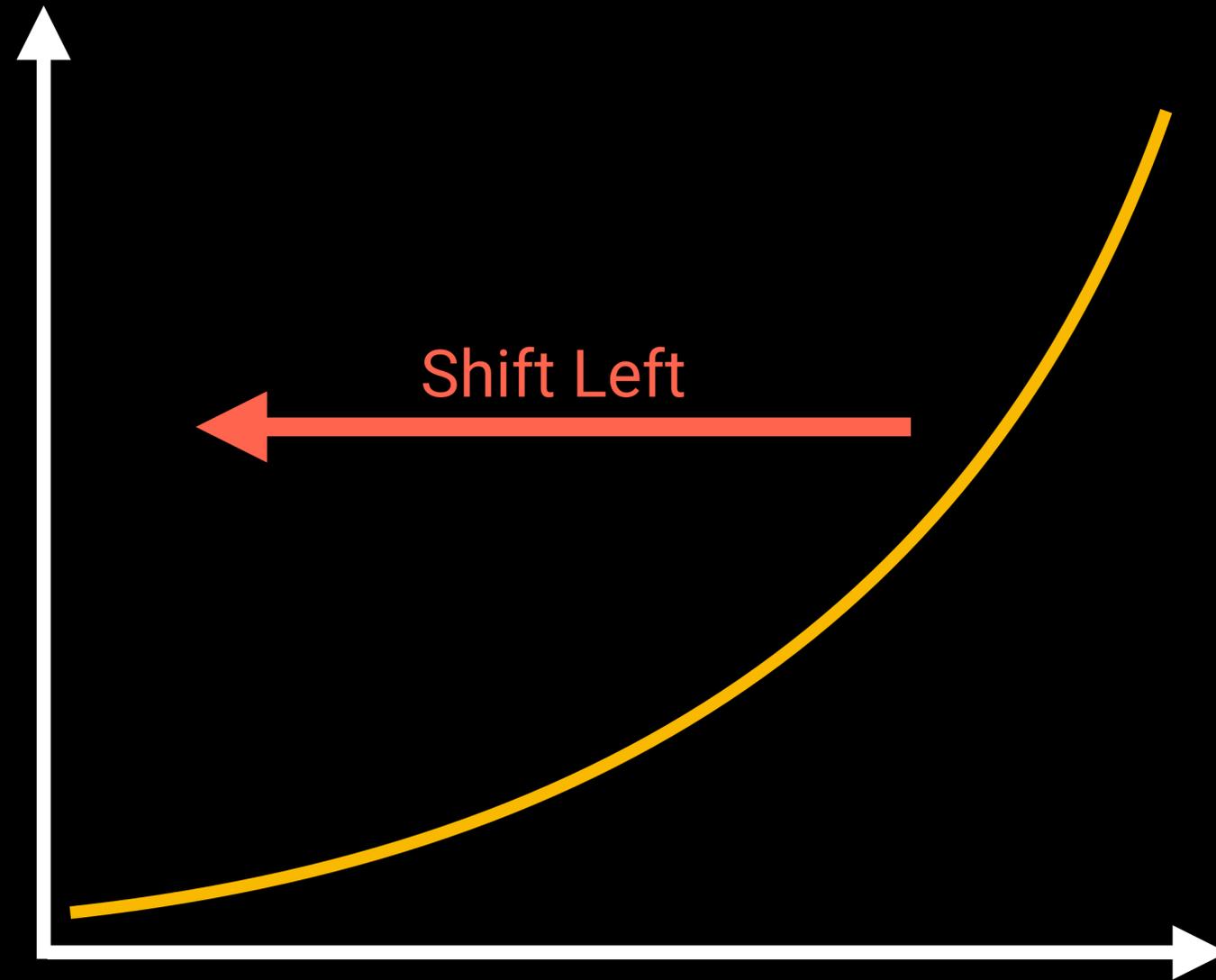
We can, if we define testing as:

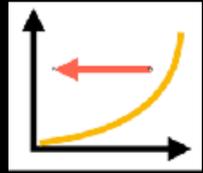
“a process of gathering information ... with the intent that the information could be used for some purpose”

Gerry Weinberg, Perfect Software and Other Illusions About Testing



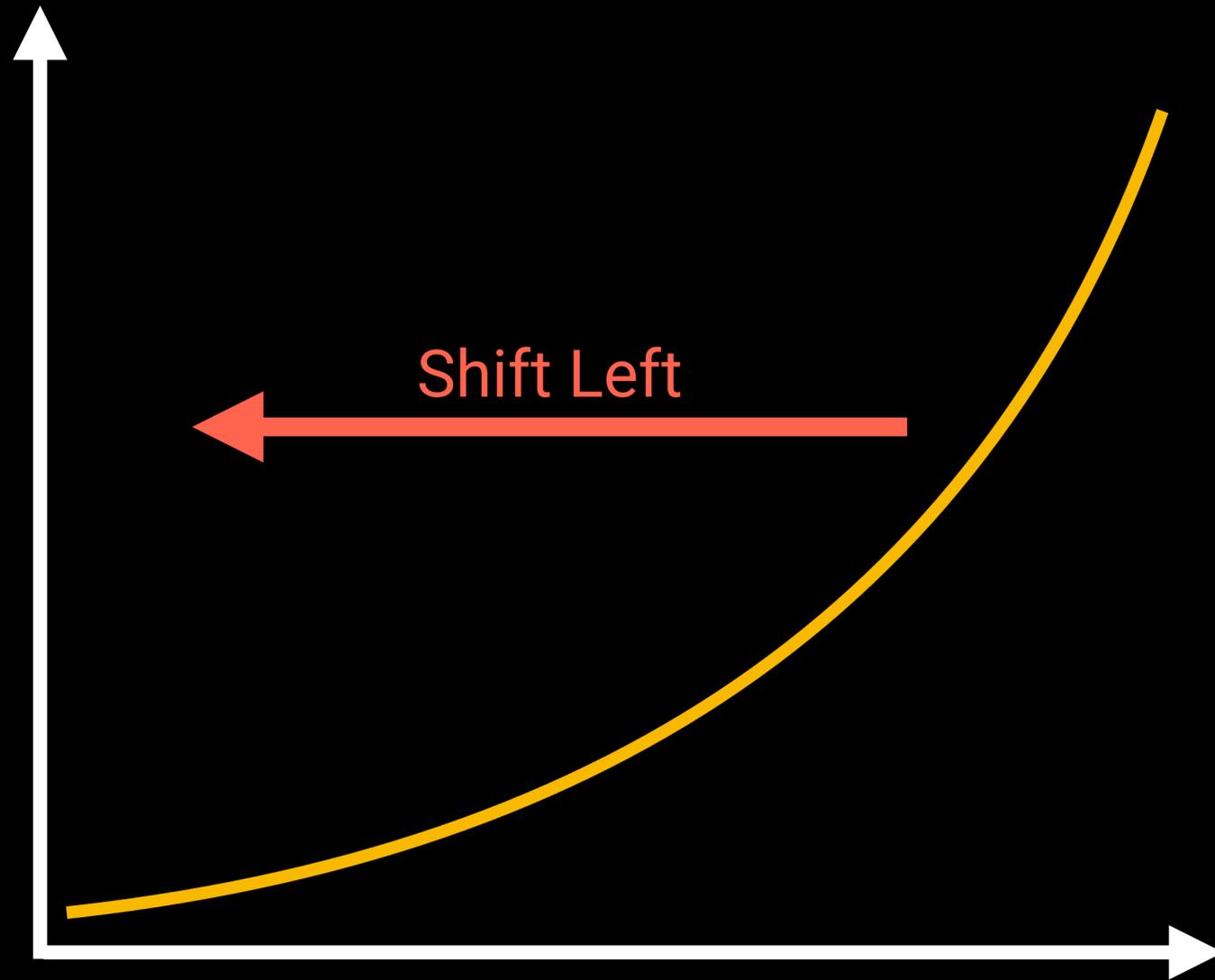
What are the benefits?

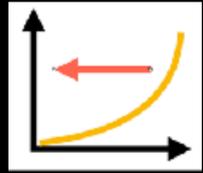




What are the benefits?

Early learning

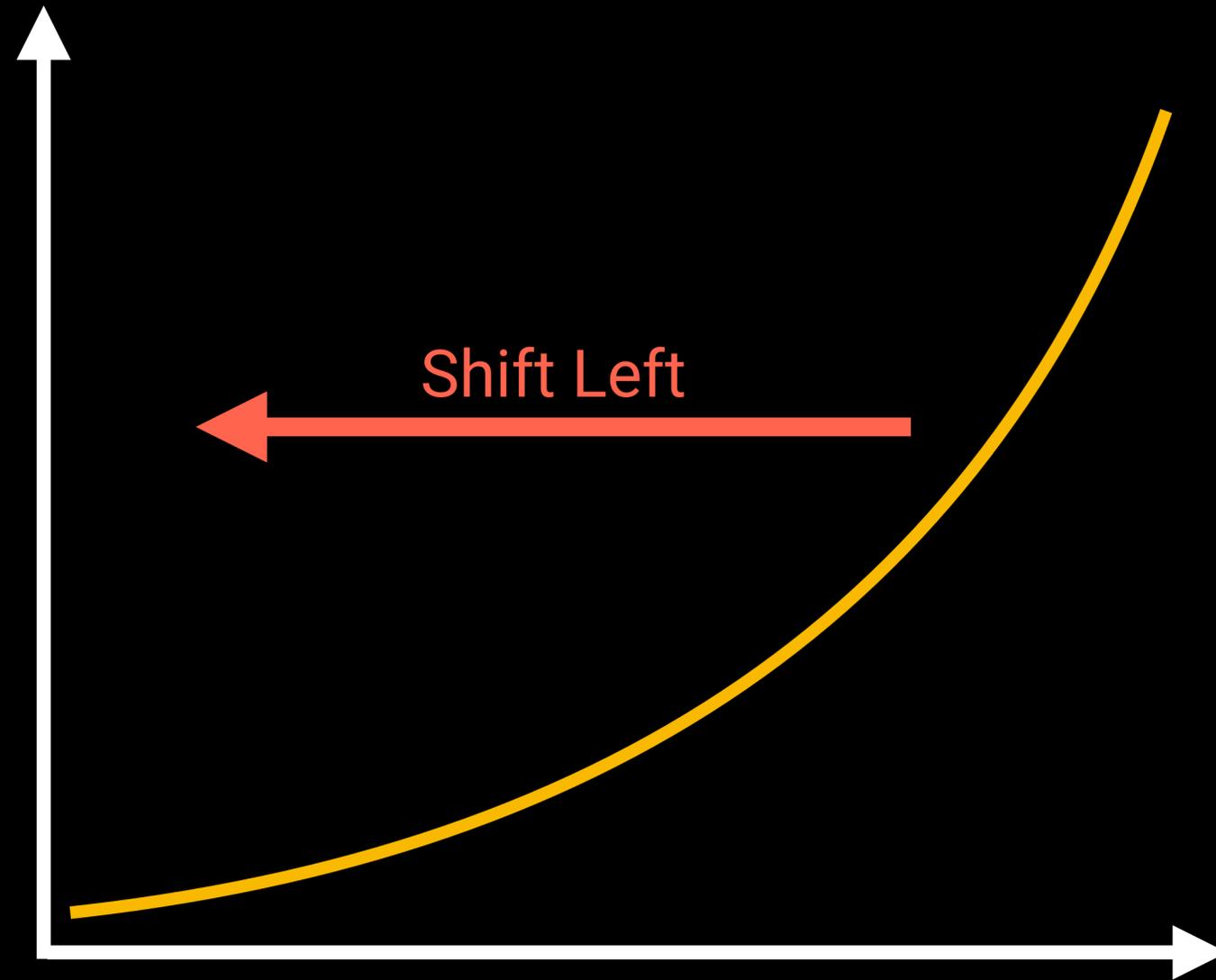


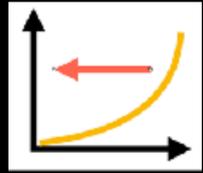


What are the benefits?

Early learning

Faster feedback



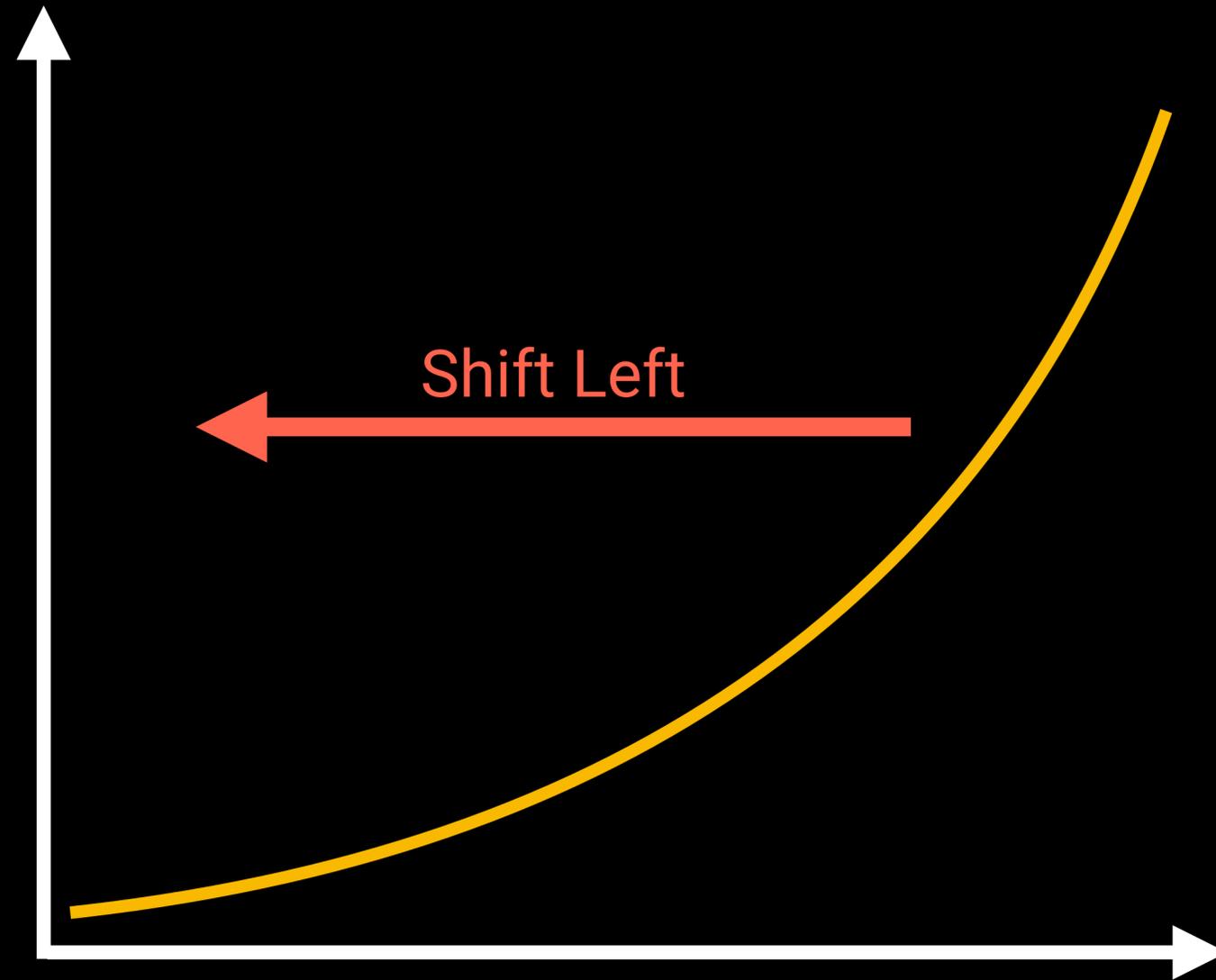


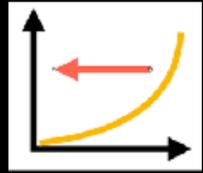
What are the benefits?

Early learning

Faster feedback

Lower costs



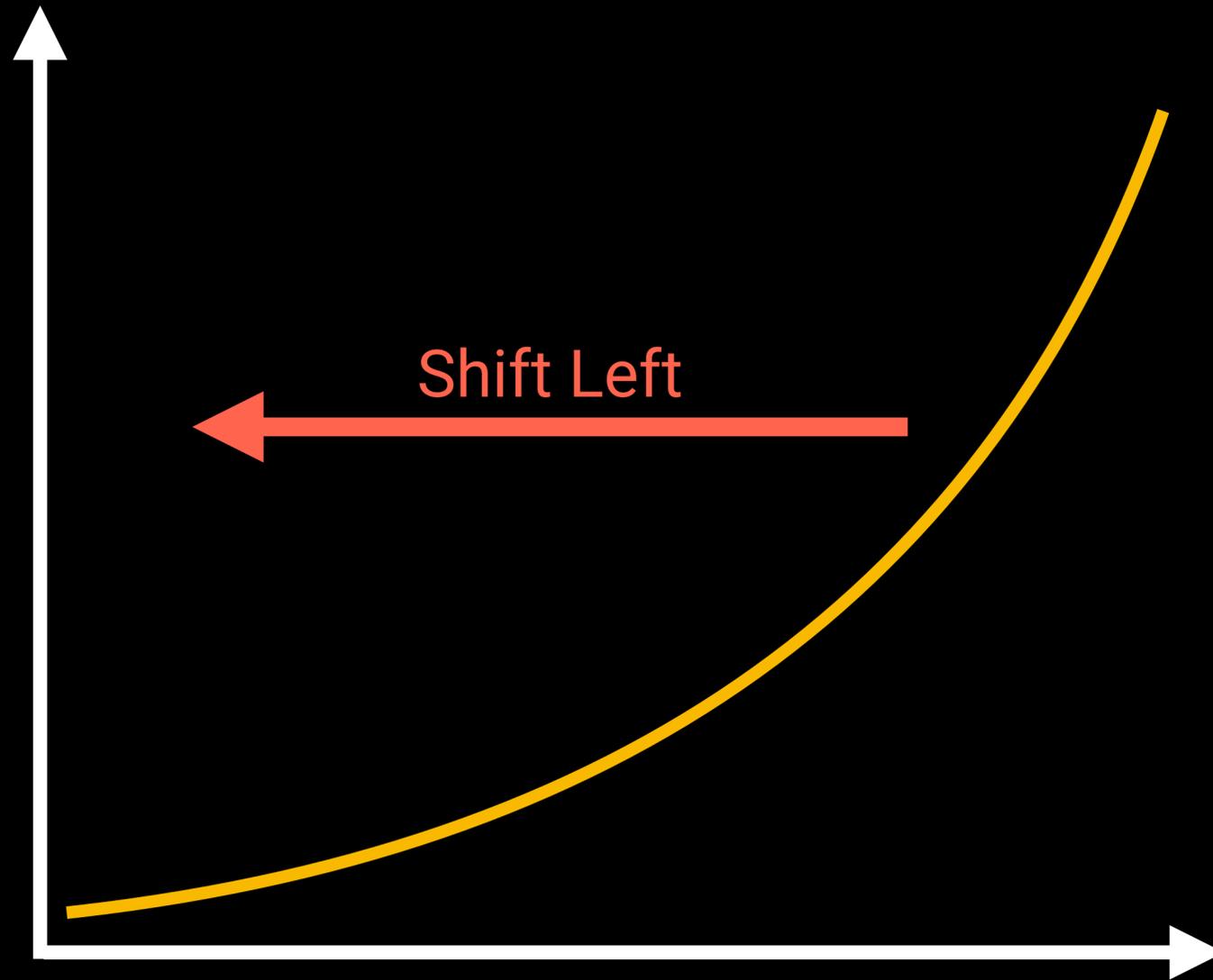


What are the benefits?

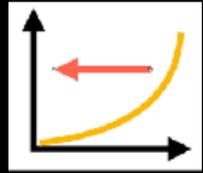
Early learning

Faster feedback

Lower costs



Higher quality

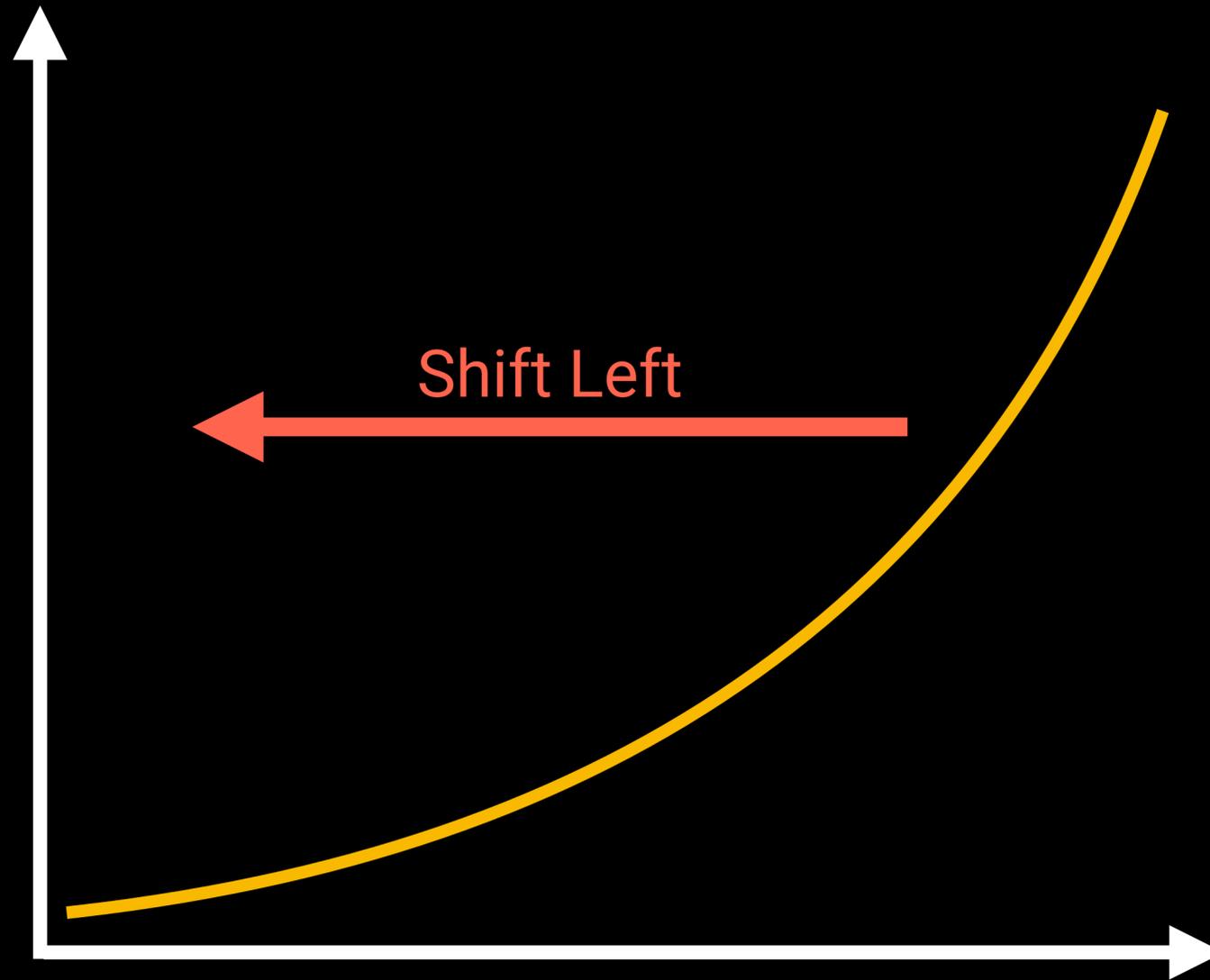


What are the benefits?

Early learning

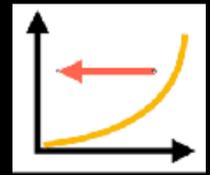
Faster feedback

Lower costs



Higher quality

Reduced risk



Compare Shift Left

Early learning

Faster feedback

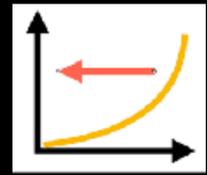
Lower costs

Reduced risks

Higher quality

In breakout rooms, compare these benefits to those promised by BDD and Test Automation, with a short exercise in Miro:

https://miro.com/app/board/o9J_IR3qH40=/?moveToWidget=3074457355254936142&cot=10



Shift Left compared

Reduced risks

Lower costs

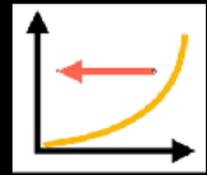
Higher quality

Faster feedback

Early learning

Delivered by
Test
Automation

Delivered by BDD



Shift Left compared

Reduced risks

Lower costs

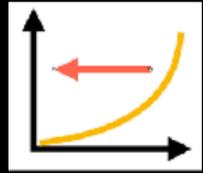
Higher quality

Delivered by
Test
Automation

Faster feedback

Early learning

Delivered by BDD



Shift Left compared

Reduced risks

Lower costs

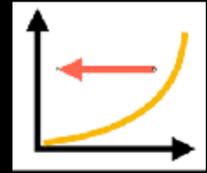
Delivered by
Test
Automation

Faster feedback

Early learning

Higher
quality

Delivered by BDD



Shift Left compared

Reduced risks

Delivered by
Test
Automation

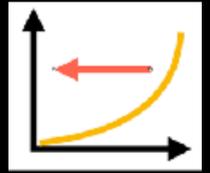
Faster feedback

Early learning

Higher
quality

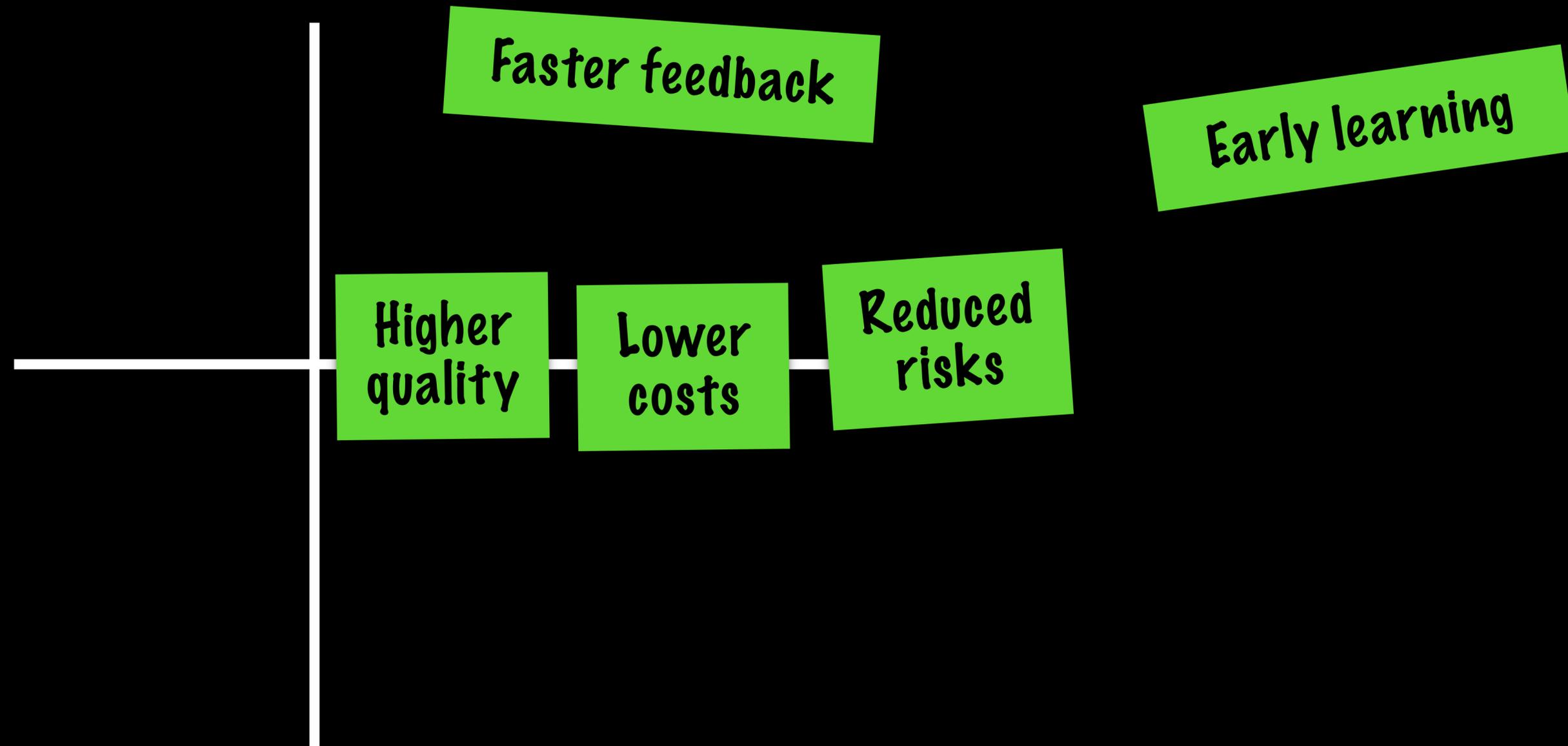
Lower
costs

Delivered by BDD

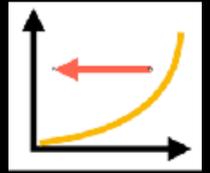


Shift Left compared

Delivered by
Test
Automation

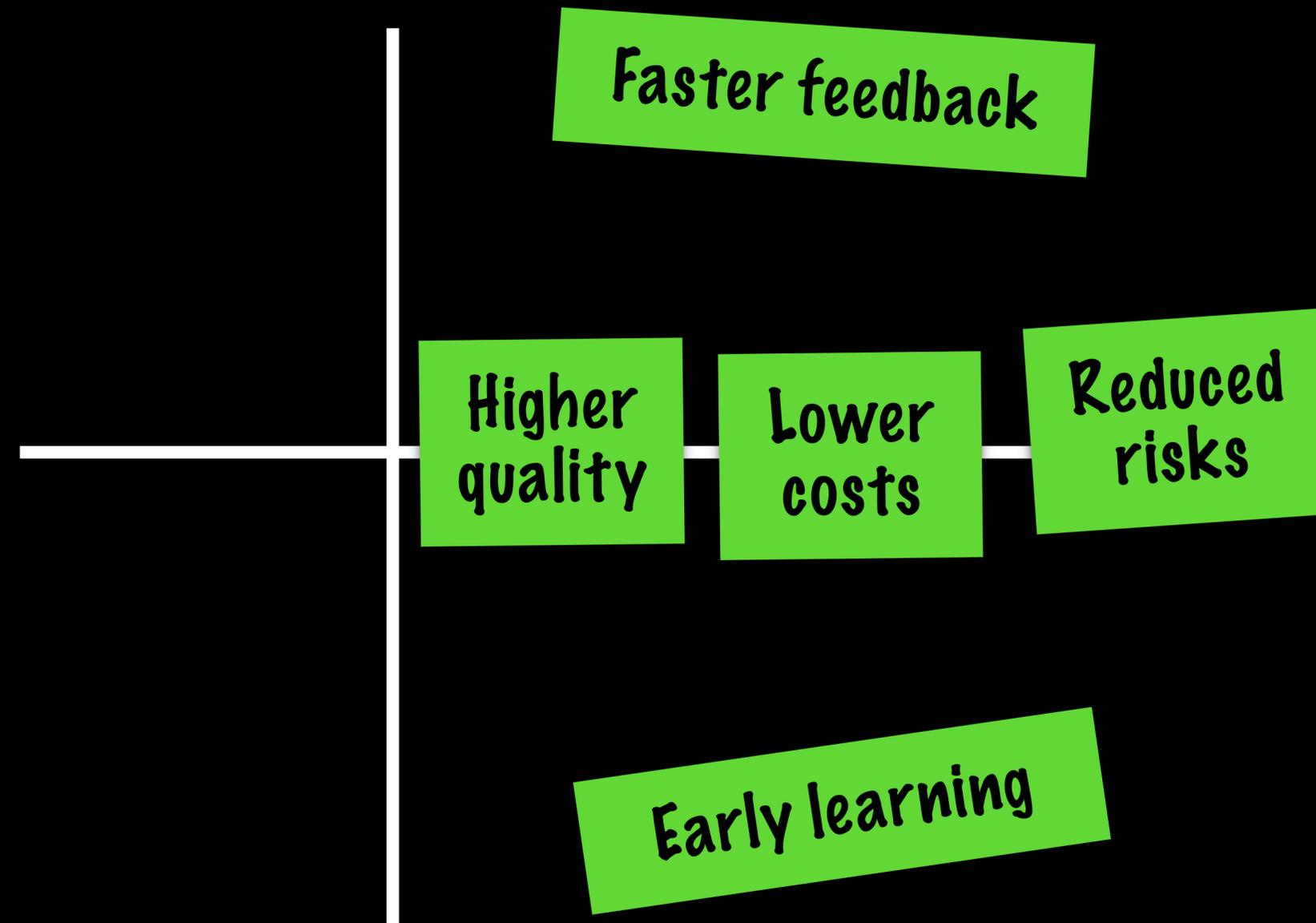


Delivered by BDD



Shift Left compared

Delivered by
Test
Automation



Delivered by BDD

Agenda

Interactions over tools

Test automation

Behaviour-driven development

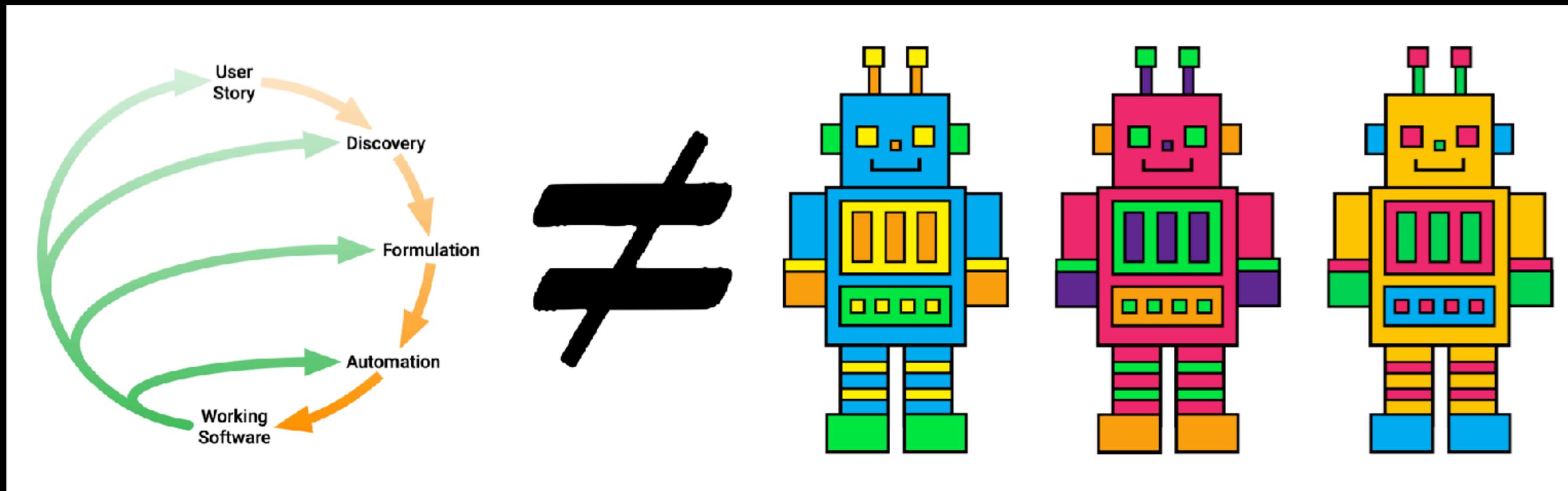
Compare and contrast

Shift left

Confusion

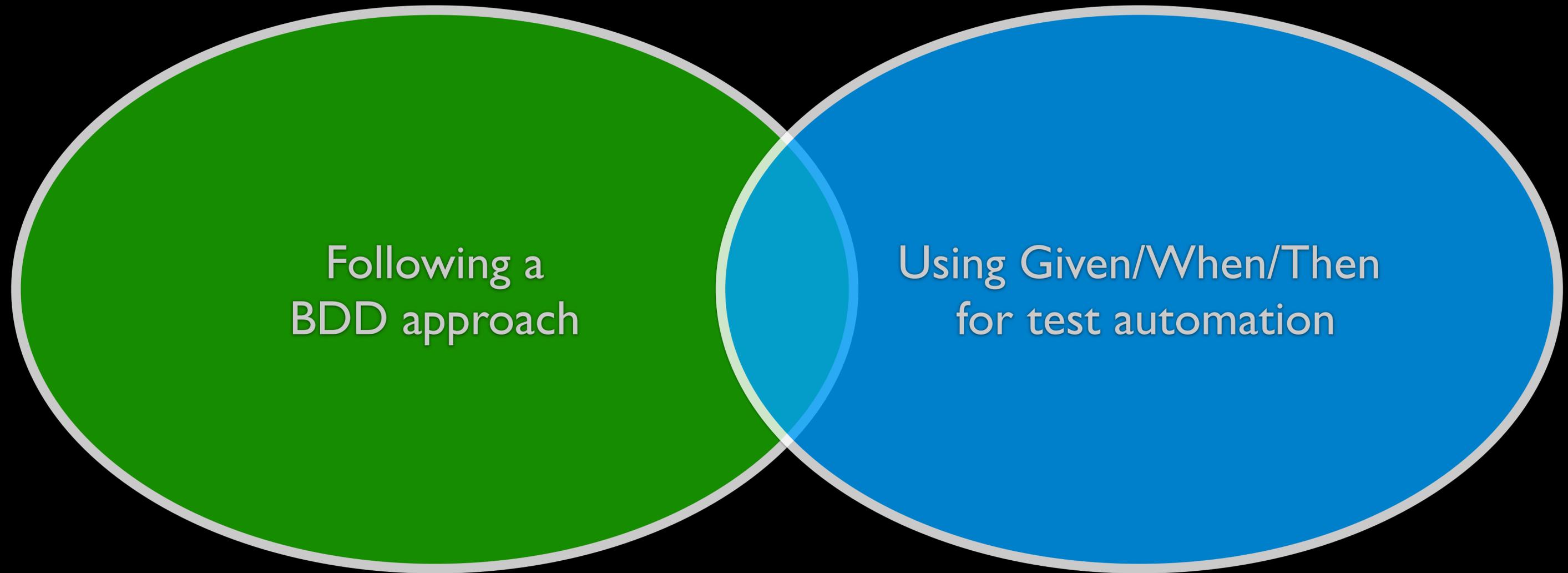
Wrap-up

Confusion

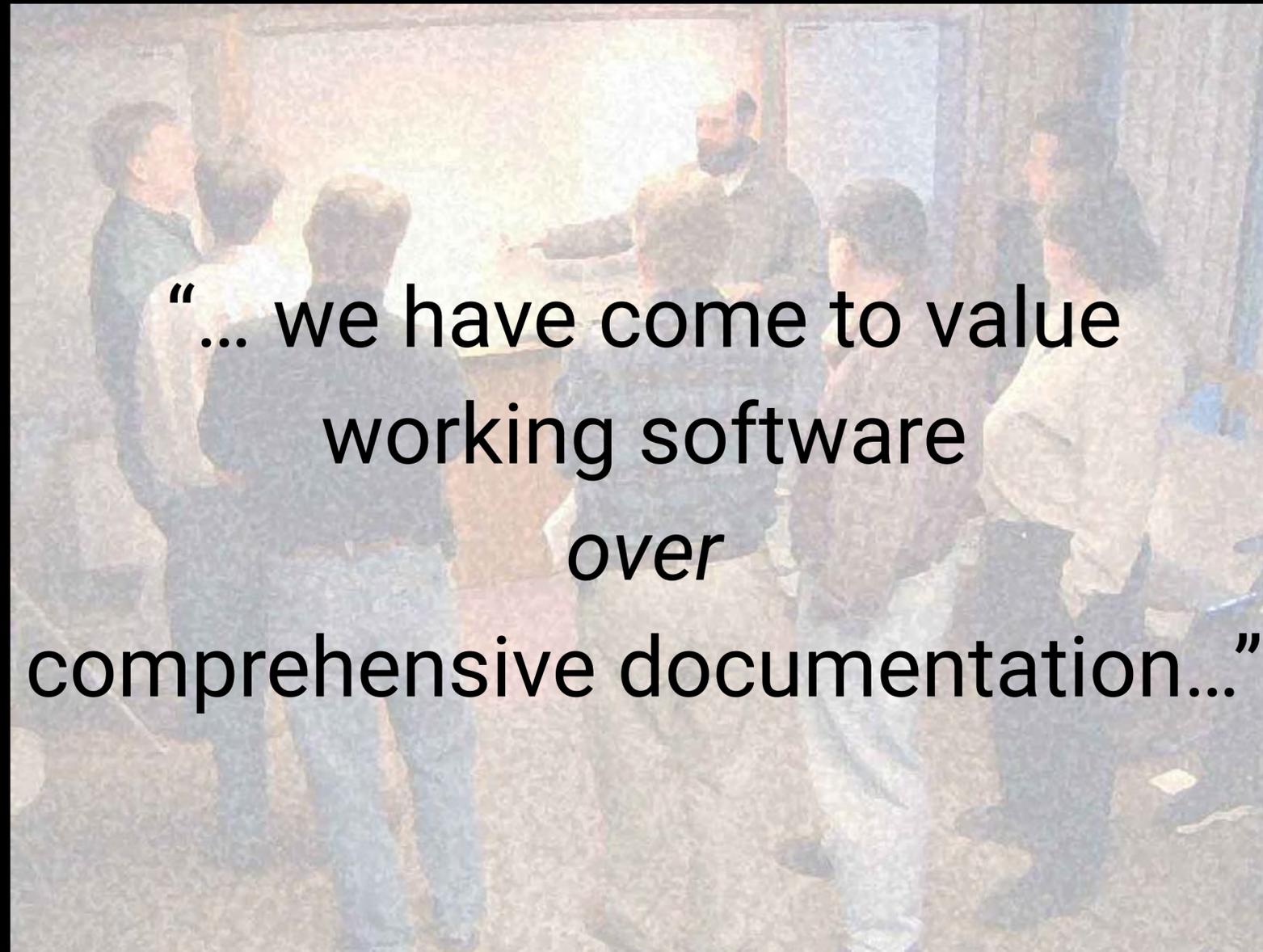


<https://cucumber.io/blog/bdd/bdd-is-not-test-automation/>

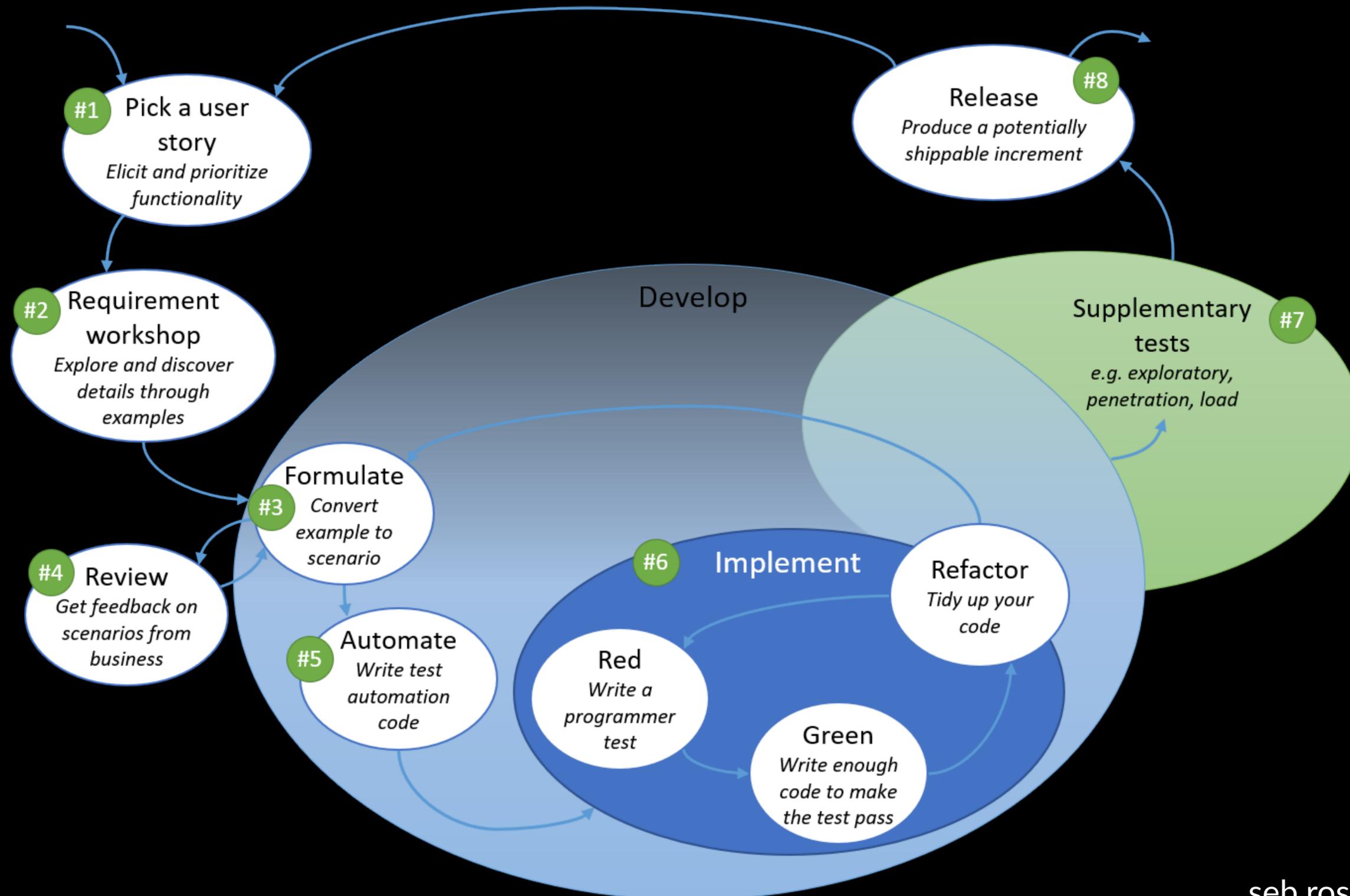
Given/When/Then are just words



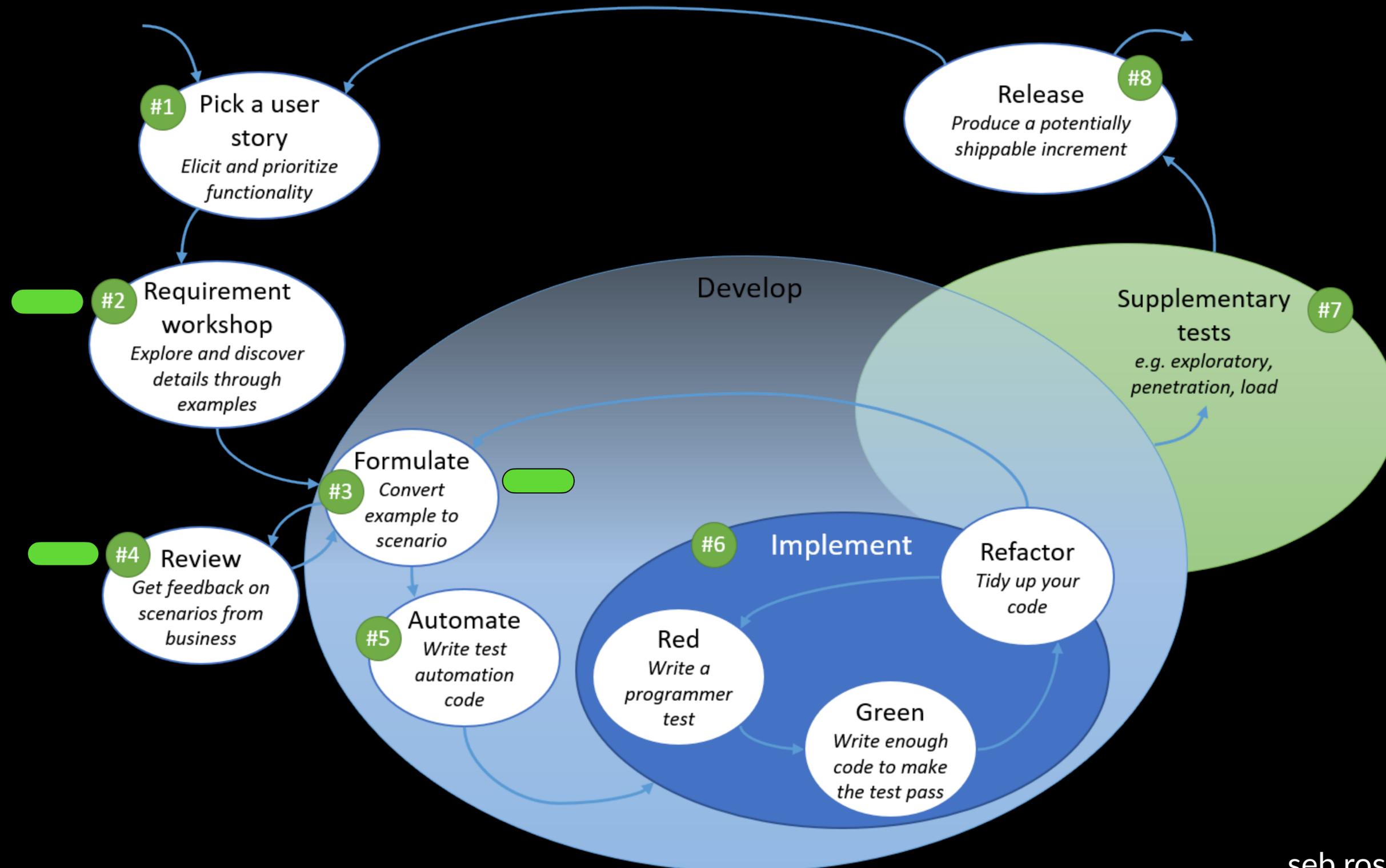
Working software is the goal



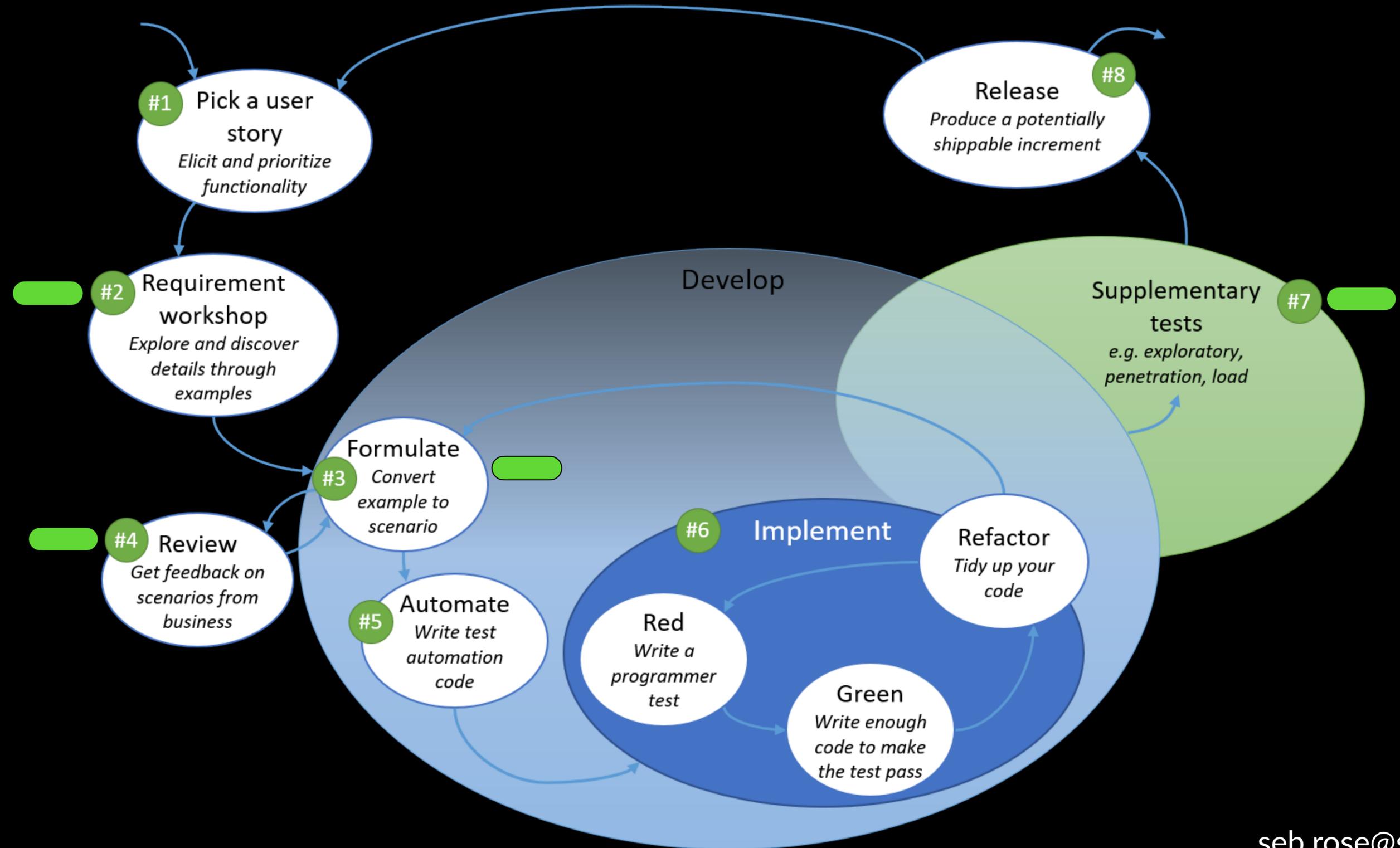
Tester skills still valuable



Tester skills still valuable



Tester skills still valuable



Agenda

Interactions over tools

Test automation

Behaviour-driven development

Compare and contrast

Shift left

Confusion

Wrap-up

POLL

Does your team use BDD?

Takeaways

Takeaways

**Test automation has
more applicable
domains**

Takeaways

BDD has a broader impact

Test automation has more applicable domains

Takeaways

Given/When/Then
is not a
discriminator

BDD has a broader
impact

Test automation has
more applicable
domains

Takeaways

Given/When/Then
is not a
discriminator

BDD has a broader
impact

Test automation has
more applicable
domains

Test automation
on it's own, does
not help "shift
left"

Takeaways

Given/When/Then
is not a
discriminator

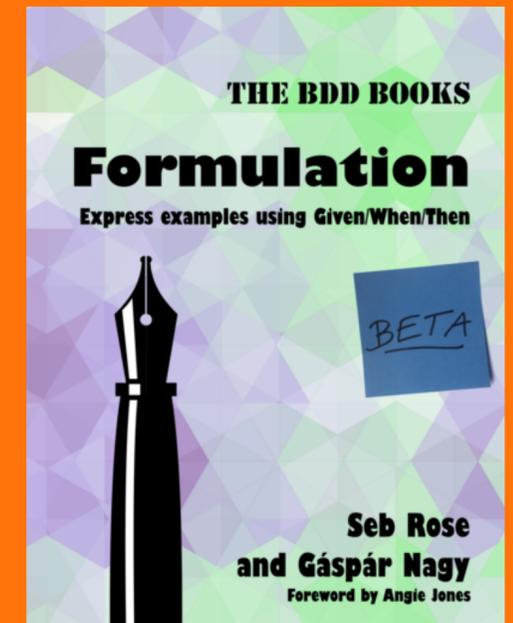
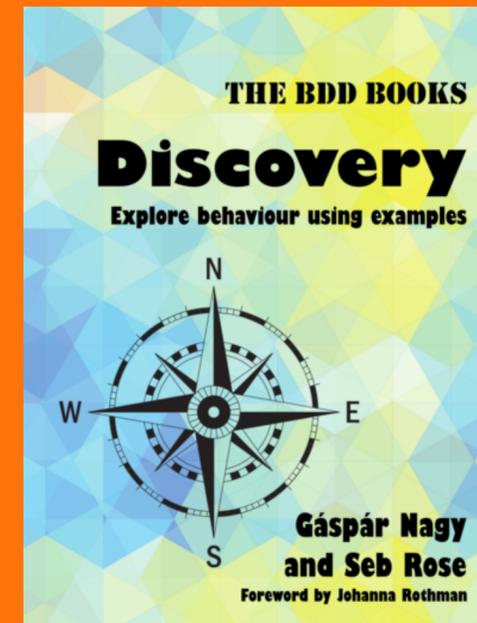
It's not either/or.

The best teams
practice BDD
and
test automation

BDD has a broader
impact

Test automation has
more applicable
domains

Test automation
on it's own, does
not help "shift
left"



<http://bddbooks.com>

Seb Rose

Twitter: @sebrose

Blog: <https://cucumber.io/blog/>

E-mail: seb.rose@smartbear.com