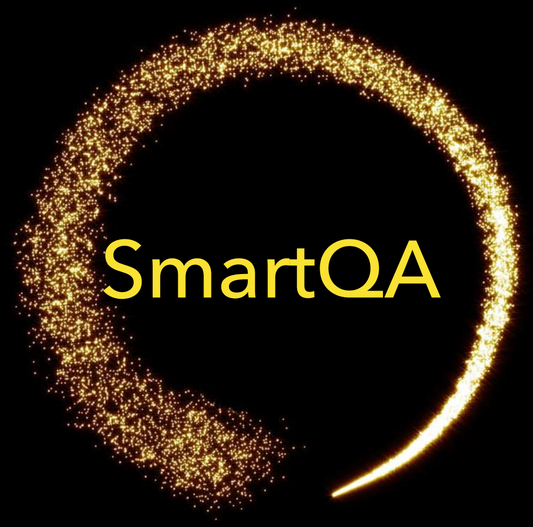


IST Masterclass
Session #3

Reconnaissance phase in detail

www.stagsoftware.com

TOPICS

Reconnaissance- What is it?

Good understanding - Why RECON, really

Understanding - what does it require

Landscaping

Good questioning

Understanding an user story

Shift-lefting

Mapping

Lightweight note taking

Reconnaisance- what is it?

RECONNAISANCE | **EXPLORATION** | **RECOUP**

Get a big picture of system and create maps to explore

who are the end users (persona)
what are the needs i.e.system elements (entities)
what are the expectations (attributes)
where will it be used (environment)

Landscaping

RECONNAISANCE | **EXPLORATION** | **RECOUP**

Get a big picture of system and create maps to explore

who uses what	Persona Map
what is expected of	Scope Map
what affects what	Interaction Map
where is it used	Environment Map

Mapping

RECON when & what?

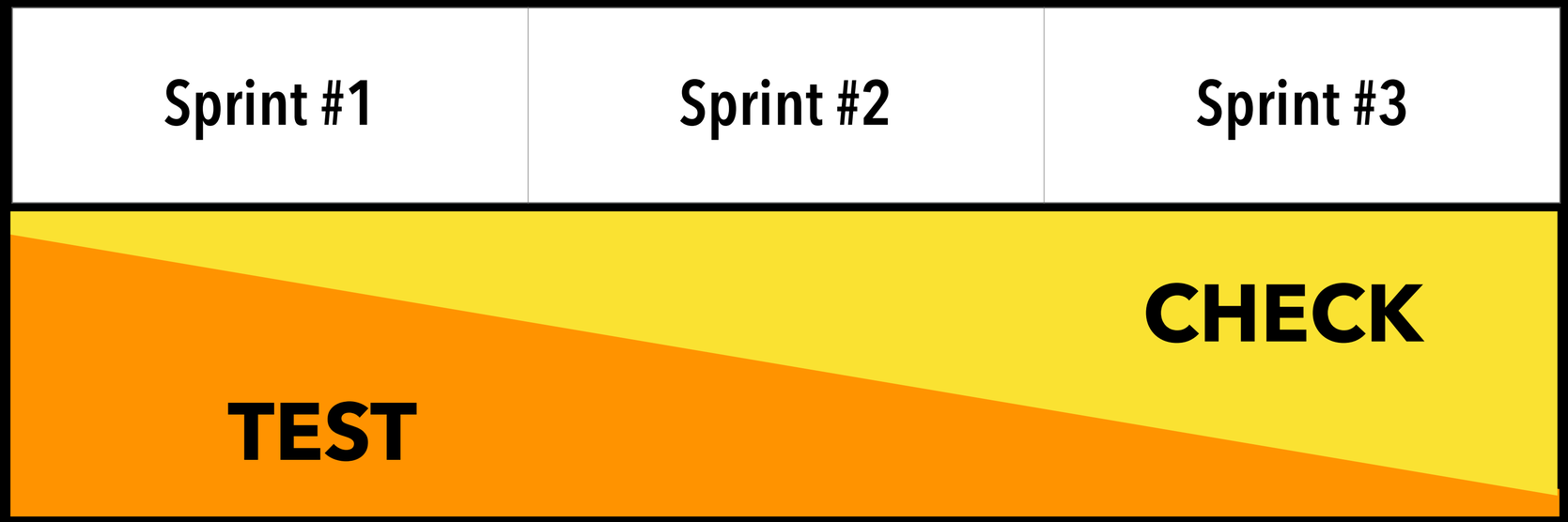
pre-Sprint	Sprint #1	Sprint #2	Sprint #3

understand
the WHOLE

Sprint #1	Sprint #2	Sprint #3

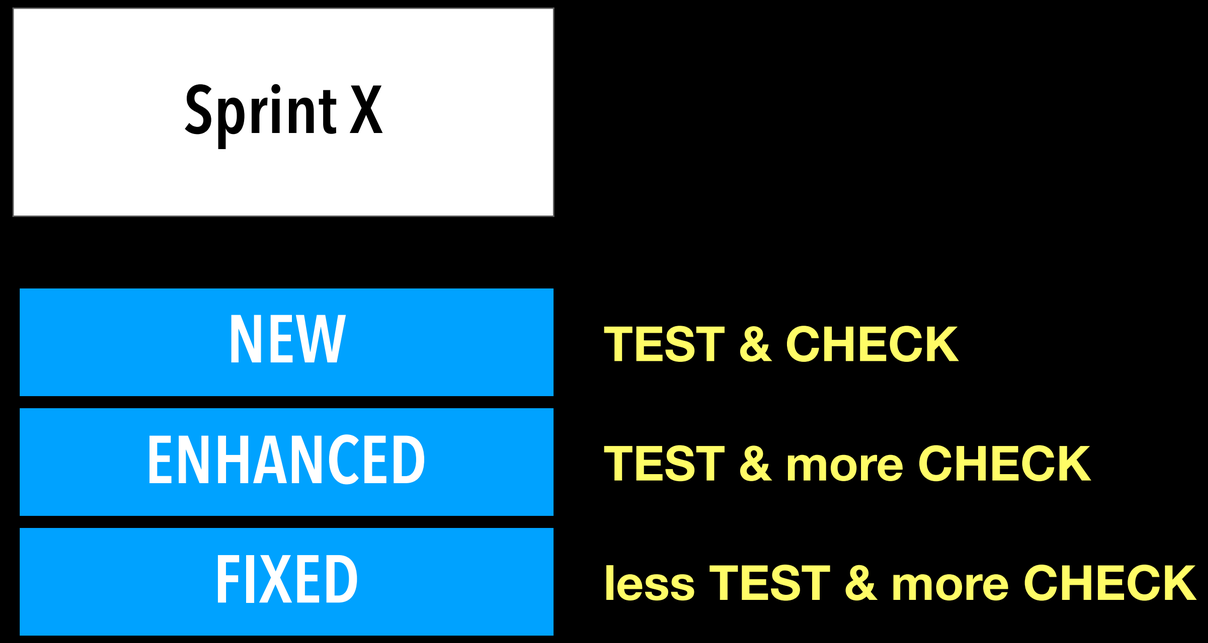
understand
the PART

Test & Check in a dev lifecycle



As sprint progresses, we end up doing more check (regression check)
Since ‘checks’ can be automated, system level automation goes up with sprints

What is Test/Check in a Sprint?



How much Test & Check depends on

1. State of entity - New | Enhanced | Fixed
2. Spec detail for entity : Less => more Test, More => more Check

Good understanding
(Why RECON, really)

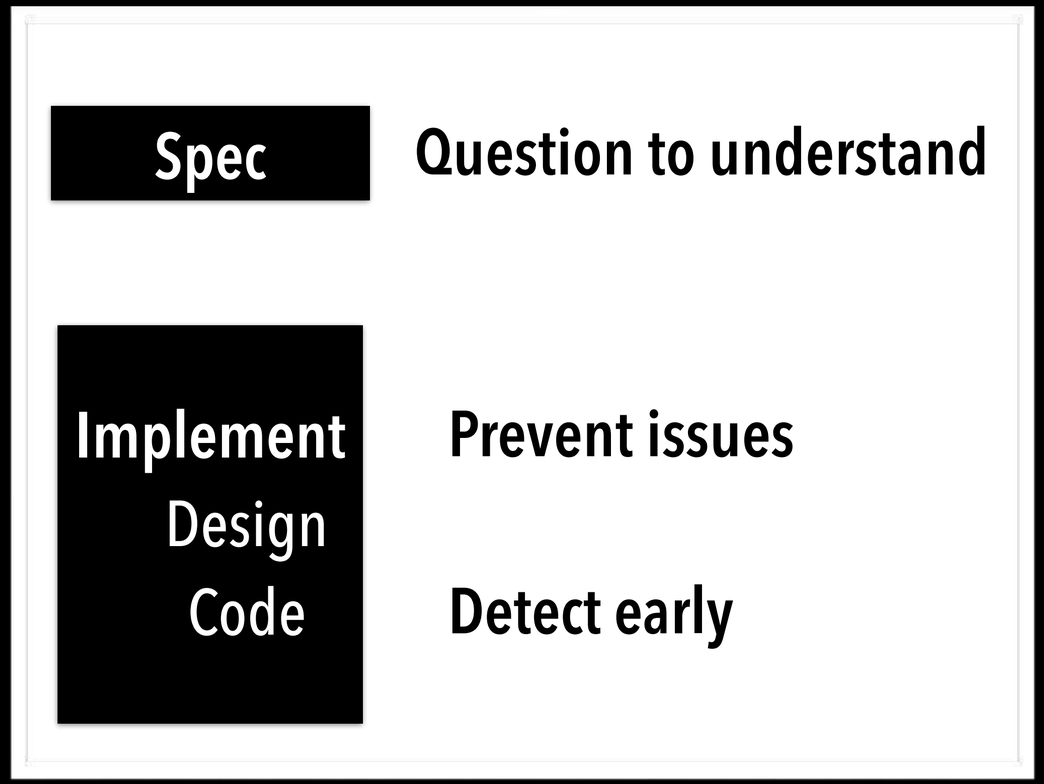
Value of good understanding

Focus of lean thinking is to “reduce waste”.

Value of good understanding

Focus of lean thinking is to “reduce waste”.

Not about finding issues later by testing,
it is about not having them in the first place.

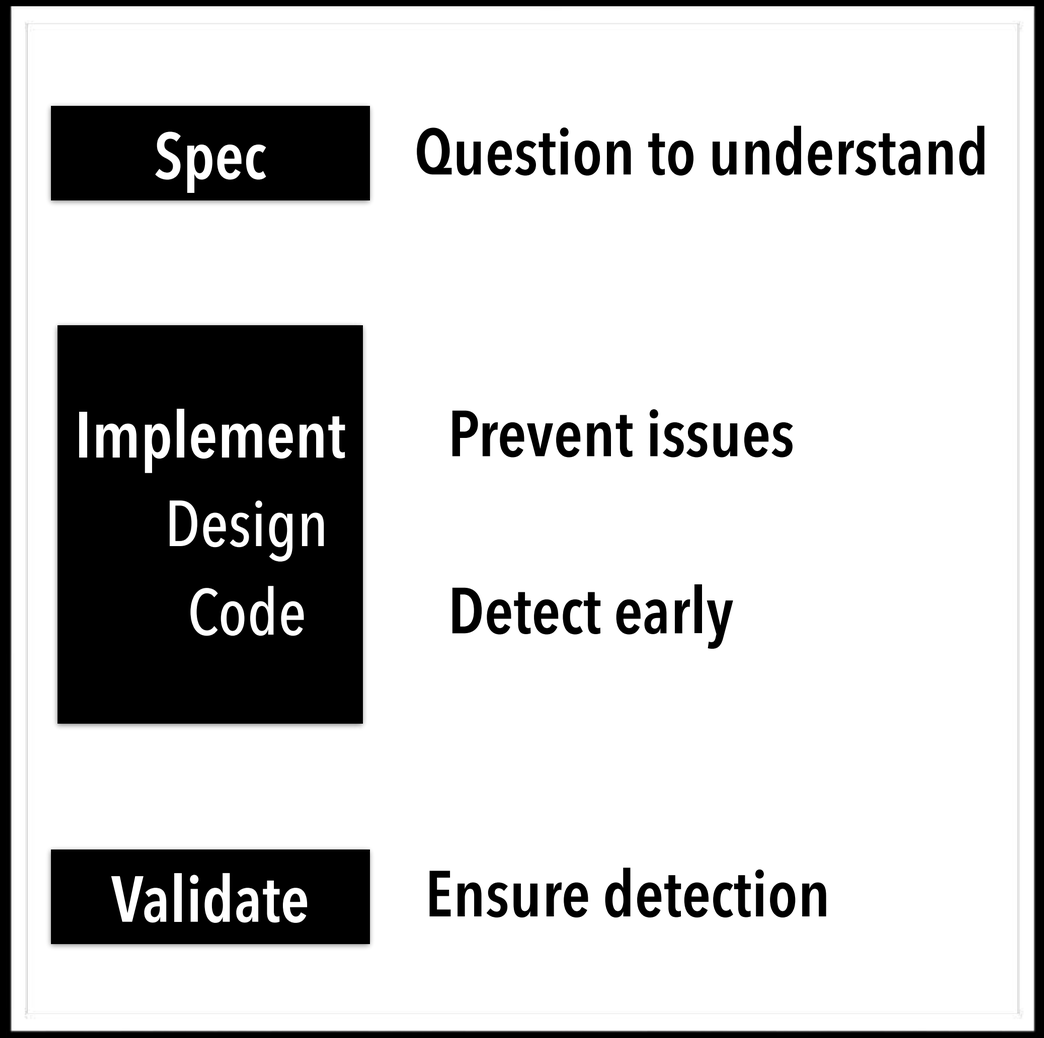


Value of good understanding

Focus of lean thinking is to “reduce waste”.

Not about finding issues later by testing,
it is about not having them in the first place.

Good questions enable clarity by:
- being clear of what you know
- discovering what you don’t know

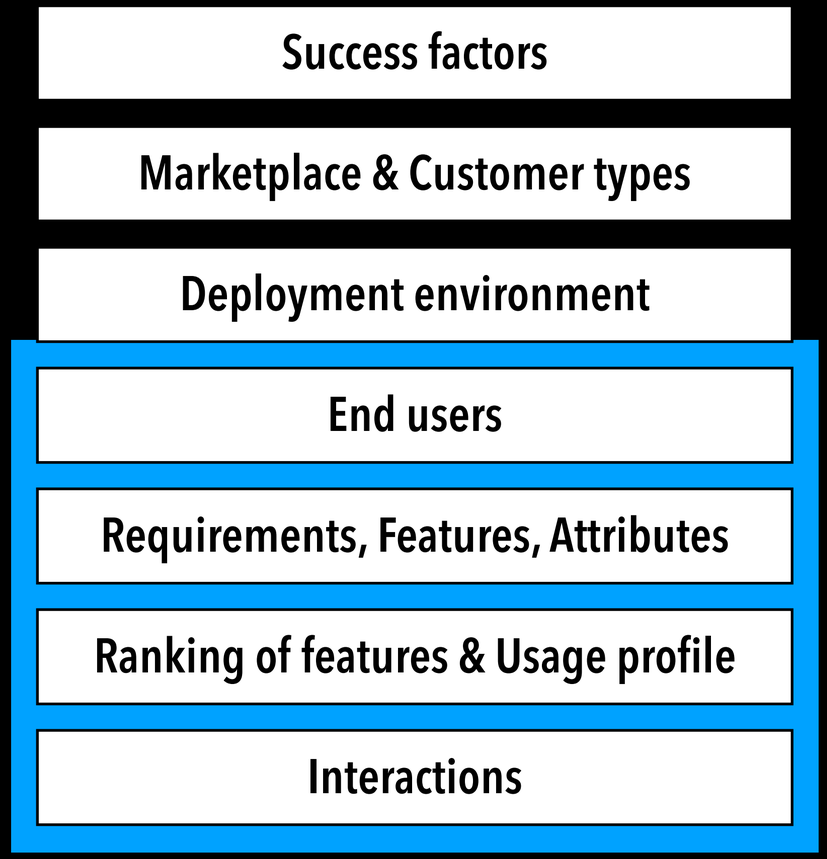


Understanding - what does it require

Information needed for good understanding

- Success factors
- Marketplace & Customer types
- Deployment environment

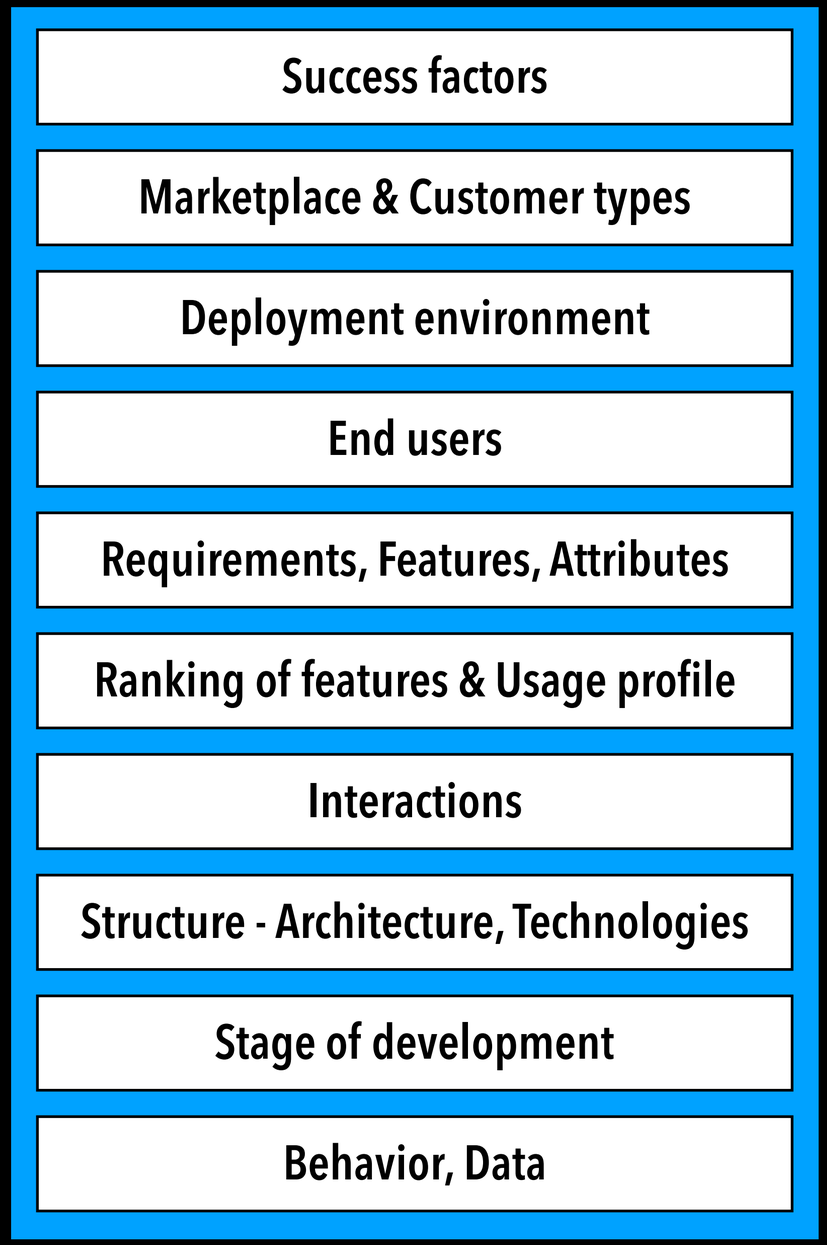
Information needed for good understanding



Information needed for good understanding

- Success factors
- Marketplace & Customer types
- Deployment environment
- End users
- Requirements, Features, Attributes
- Ranking of features & Usage profile
- Interactions
- Structure - Architecture, Technologies
- Stage of development
- Behavior, Data

Information needed for good understanding



External information

to

Internal information

Do you see the correlation ?

- Success factors
- Marketplace & Customer types
- Deployment environment
- End users
- Requirements, Features, Attributes
- Ranking of features & Usage profile
- Interactions
- Structure - Architecture, Technologies
- Stage of development
- Behavior, Data

External information

to

Internal information

- **L9** End user value
- **L8** Deployment correctness
- **L7** Attribute correctness
- **L6** Environment correctness
- **L5** Flow correctness
- **L4** Behaviour correctness
- **L3** Structural correctness
- **L2** Interface correctness
- **L1** Input correctness

View from outside to inside

Customers

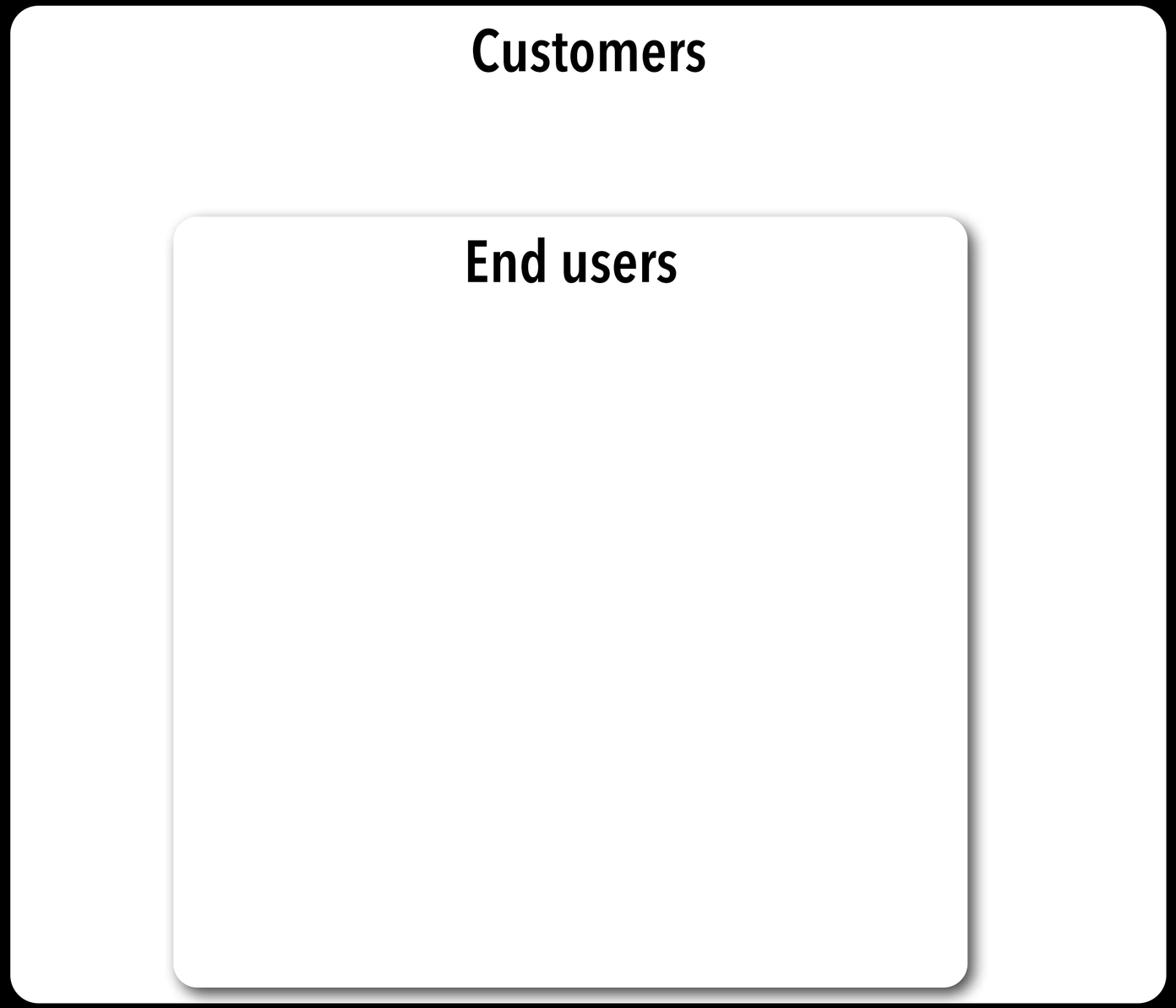
Marketplace

Customer types

Success factors

Deployment environment

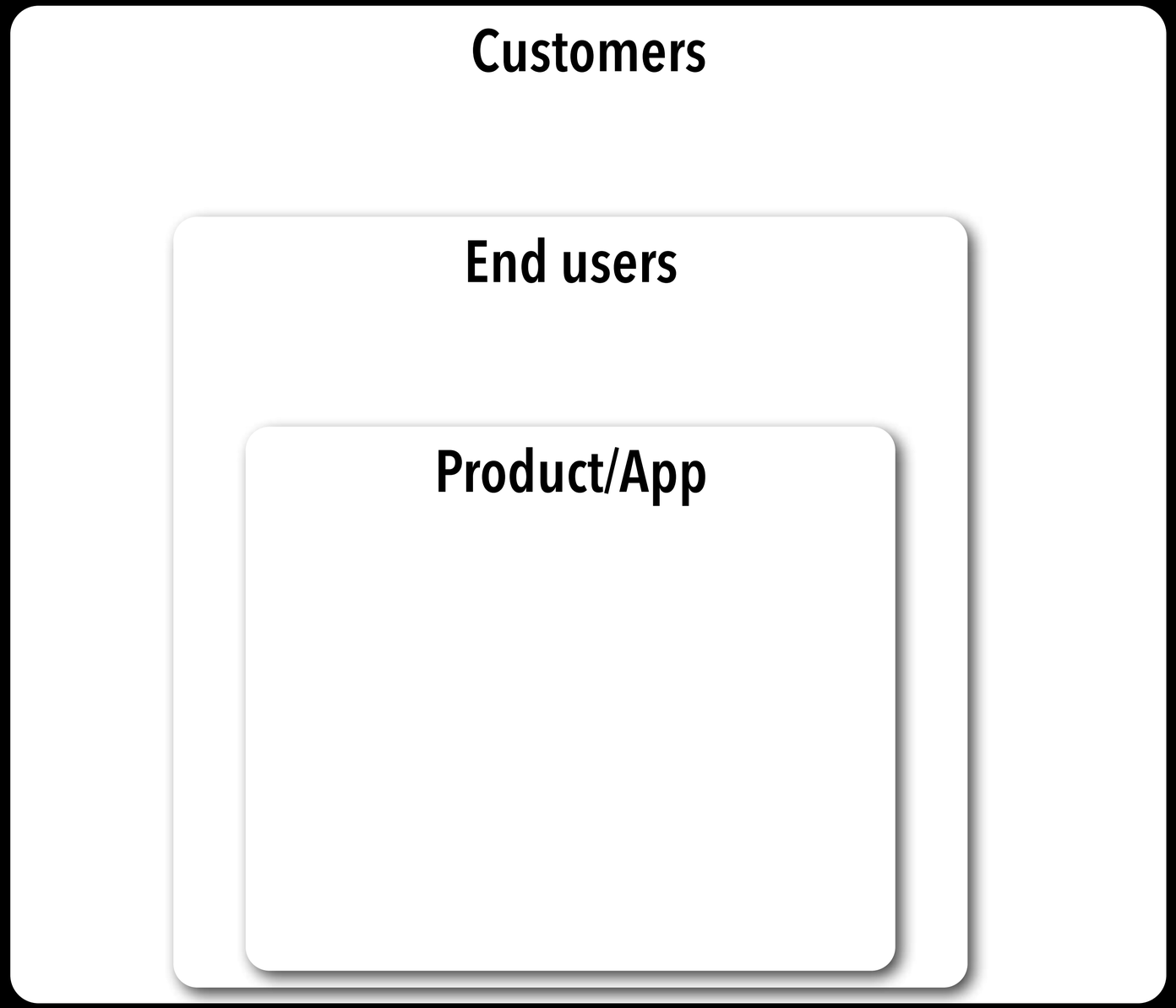
View from outside to inside



Marketplace | Customer types | Success factors | Deployment environment

User types | Requirements | #Users | Usage profile | Features | Ranking of features | Attributes

View from outside to inside



Marketplace | Customer types | Success factors

Deployment environment

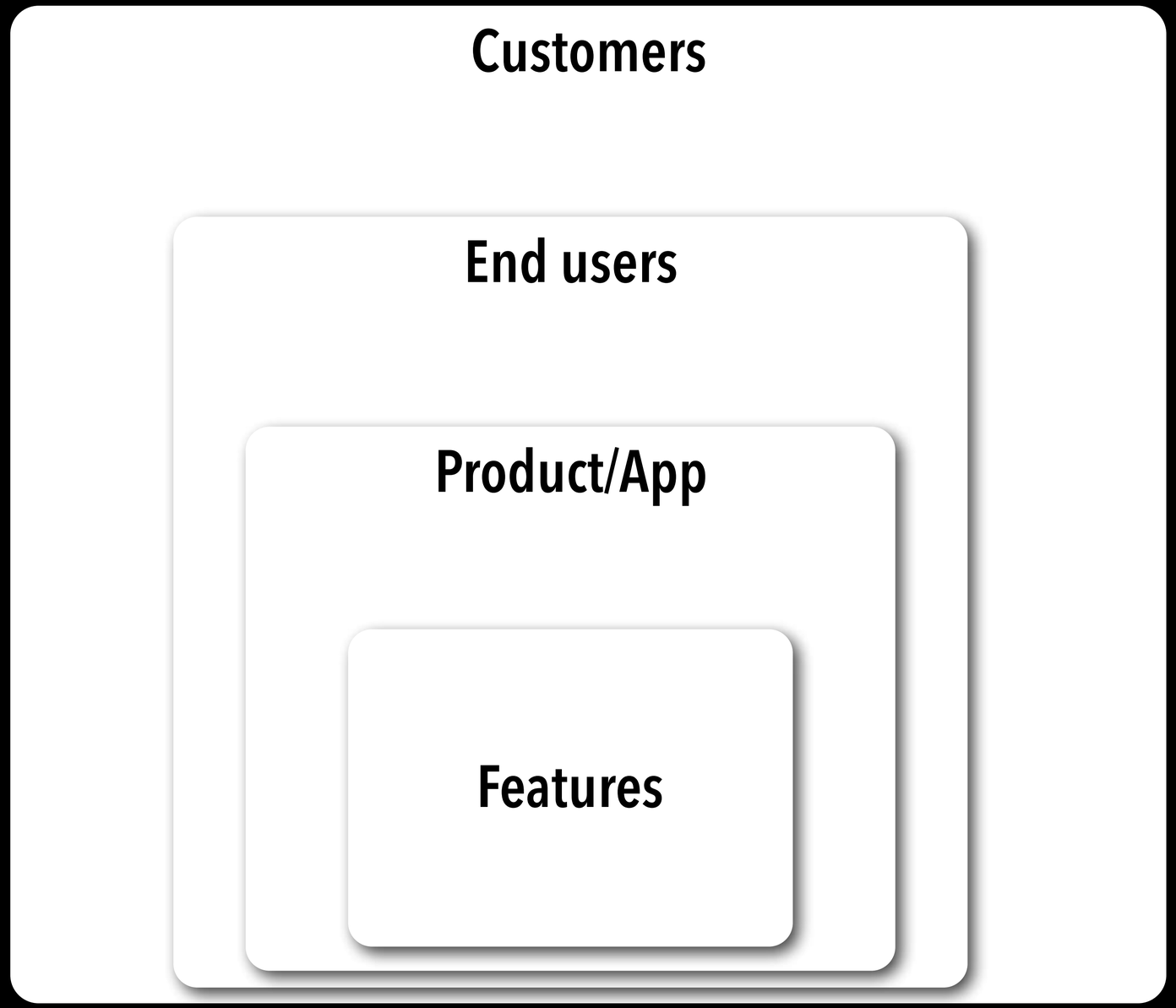
User types | Requirements | #Users | Usage profile

Features | Ranking of features | Attributes

Structure - Architecture, Technologies

Stage of development - New/Modified

View from outside to inside



Marketplace | Customer types | Success factors

Deployment environment

User types | Requirements | #Users | Usage profile

Features | Ranking of features | Attributes

Structure - Architecture, Technologies

Stage of development - New/Modified

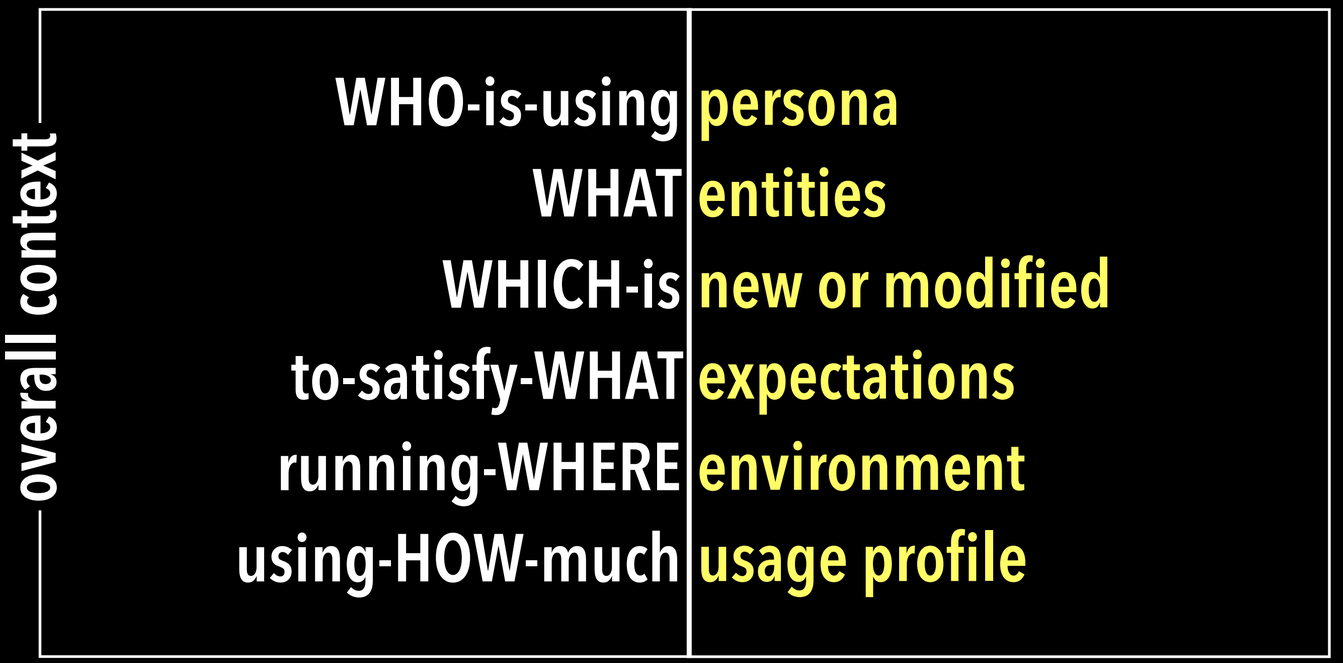
Behaviour | Data spec

Interactions

Landscaping

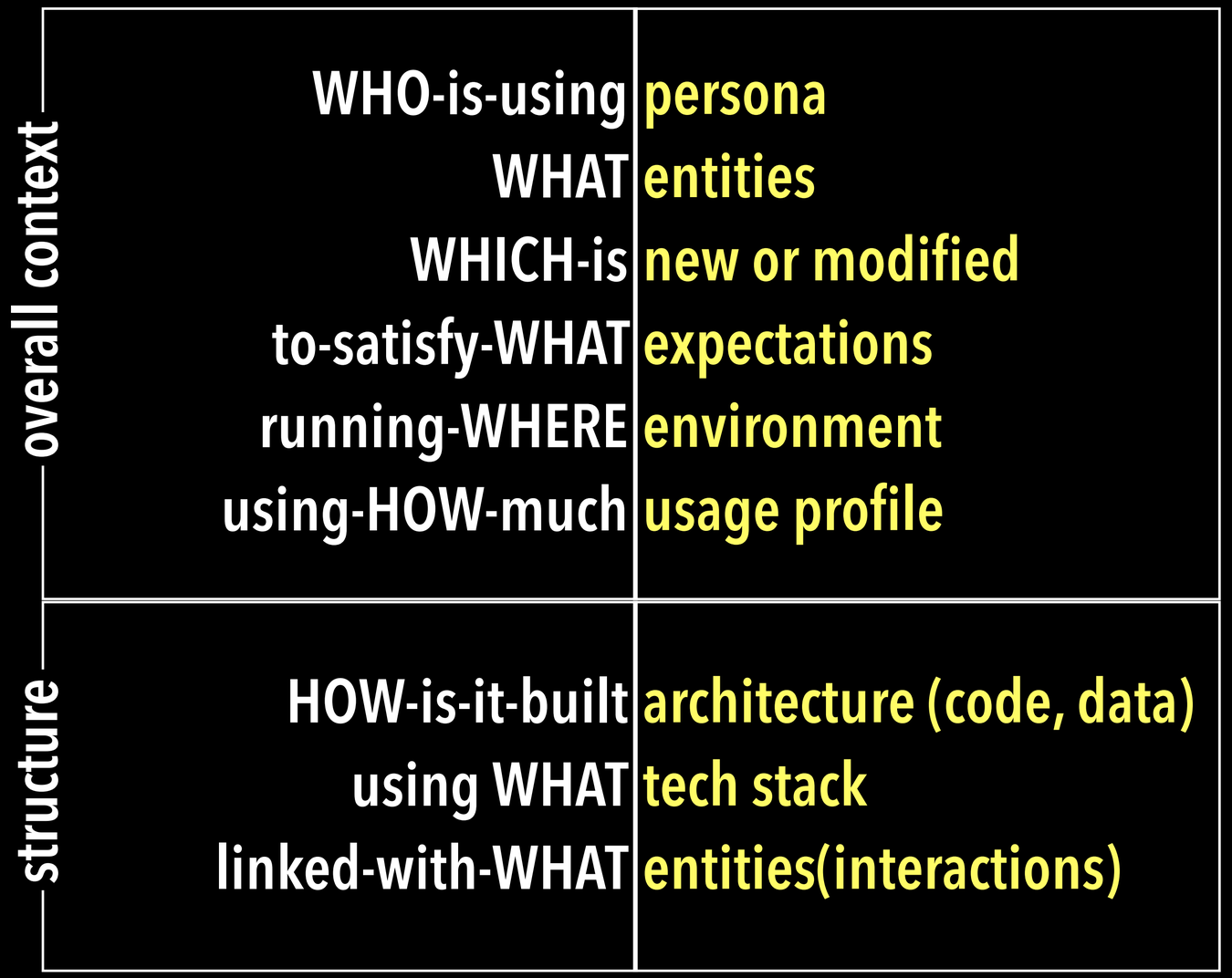
Landscaping

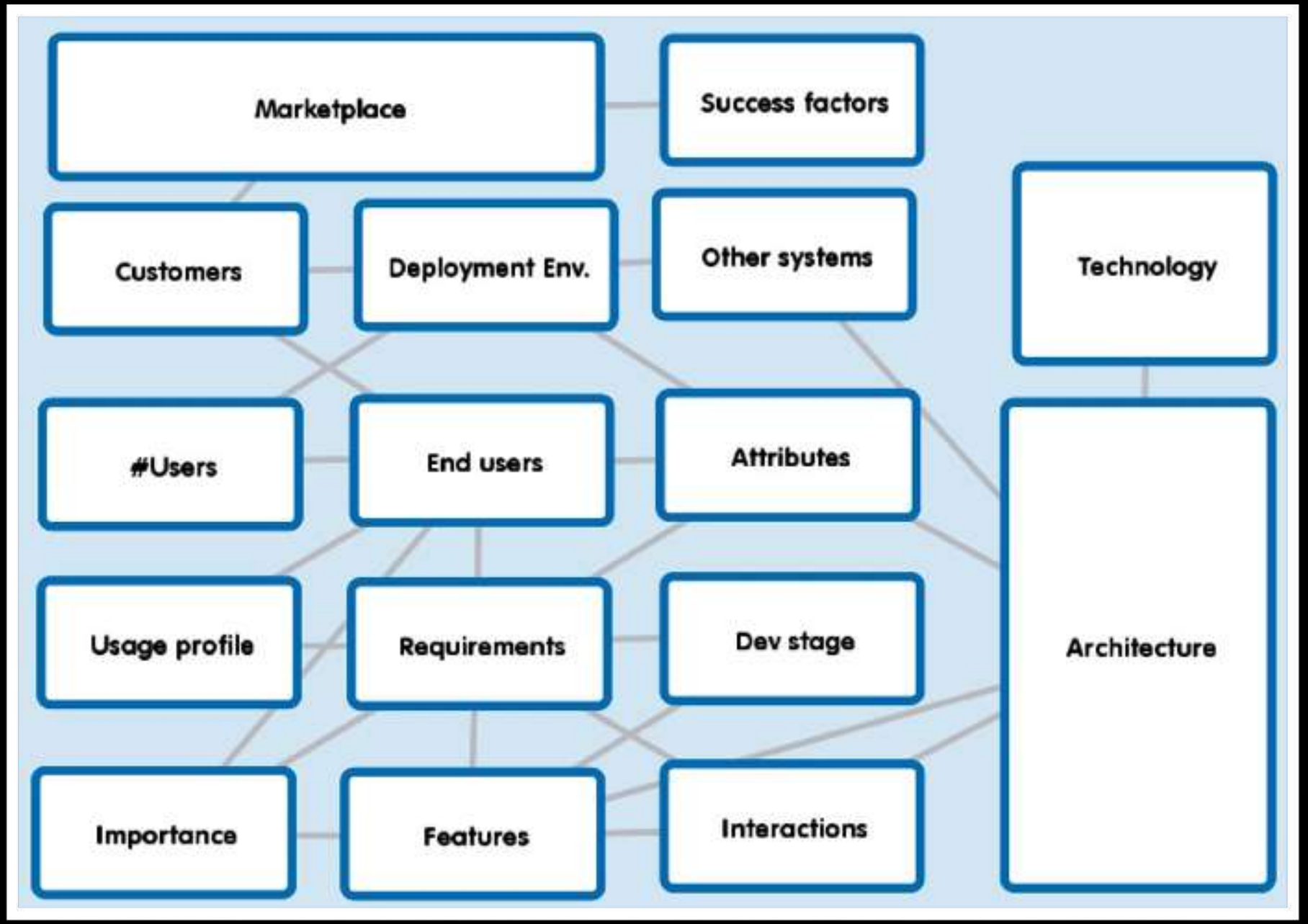
Scour the landscape to understand **overall context**



Landscaping

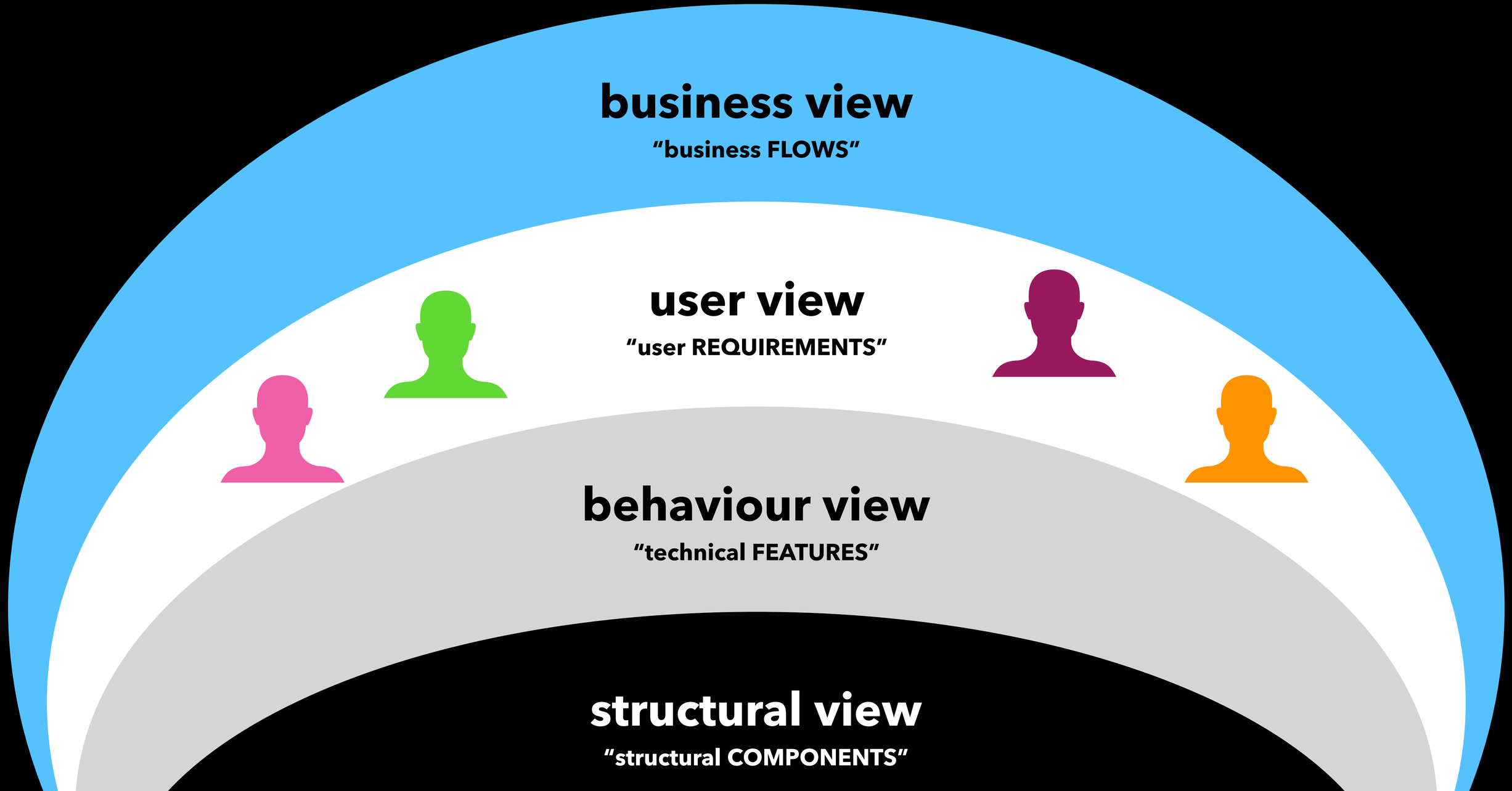
Scour the landscape
to understand overall
context and the static
structure of how it is built





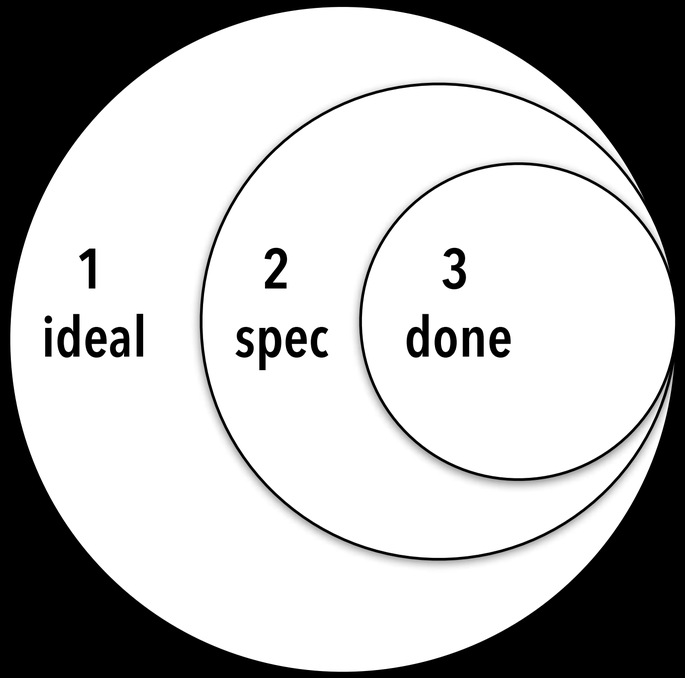
LANDSCAPING - Connecting different pieces

views of “THE SYSTEM”



Good questioning

How issues happen.

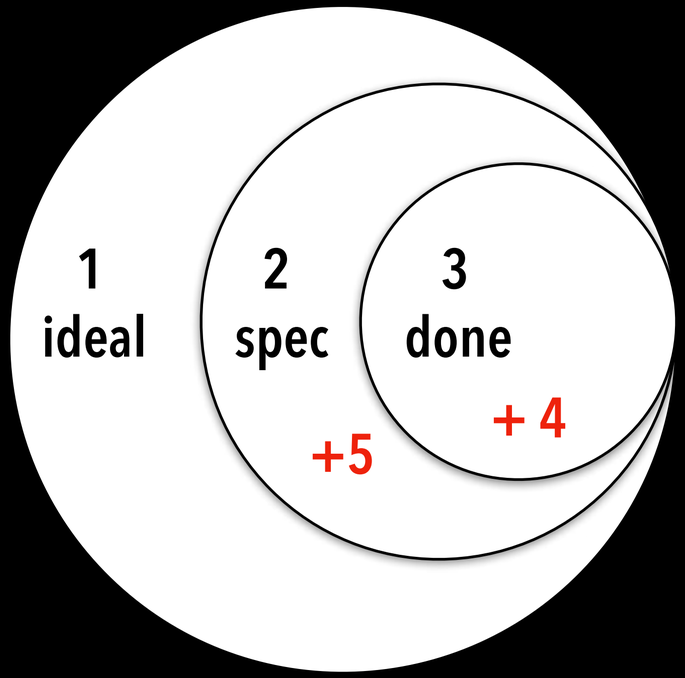


1 what is needed

2 what is stated

3 what is implemented

How issues happen.



1 what is needed

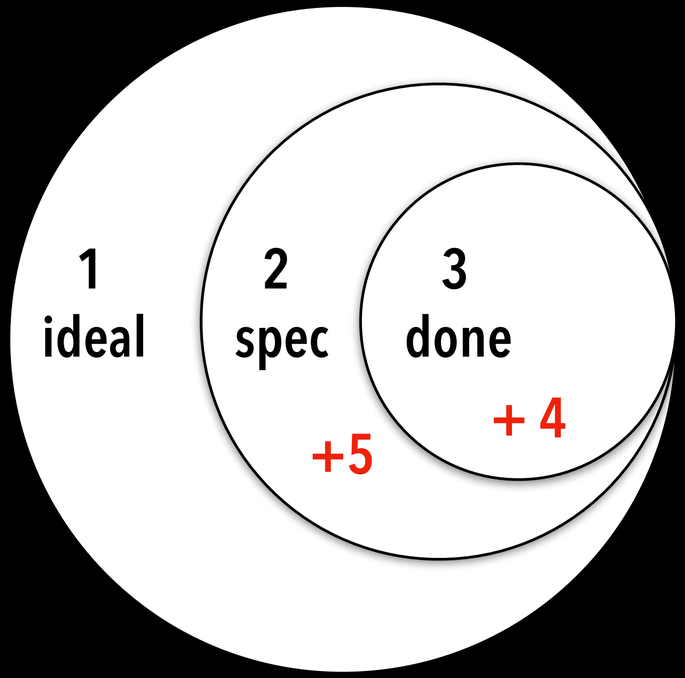
2 what is stated

3 what is implemented

4 issues in implementation

5 issues of incorrect spec

How issues happen.



1 what is needed
2 what is stated
3 what is implemented
4 issues in implementation
5 issues of incorrect spec

ISSUES arise due to
gaps between needing but not stating,
missing to implement though stated,
implemented incorrectly what is stated
& implementing incorrect stuff

So, question well.

Connecting questions & Quality levels

L1 Input correctness

What types of data? What limits/boundaries?

Connecting questions & Quality levels

L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L5 Flow correctness	Who uses What & How much? What are the key end to end flows? Aggegate data spec, flow/requirement behaviour conditions. Interaction/linkages
L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L6 Environment correctness	What environments (HW, SW, Data)? Which environments are most used? Are they different for different classes of customers?
L5 Flow correctness	Who uses What & How much? What are the key end to end flows? Aggegate data spec, flow/requirement behaviour conditions. Interaction/linkages
L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L7 Attribute correctness	What attributes are key? Clear about what to meet? Understand tradeoffs? Benchmark with competition? What is the usage profile? How will usage grow over time? Multiligual? ..
L6 Environment correctness	What environments (HW, SW, Data)? Which environments are most used? Are they different for different classes of customers?
L5 Flow correctness	Who uses What & How much? What are the key end to end flows? Aggegate data spec, flow/requirement behaviour conditions. Interaction/linkages
L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L8 Deployment correctness	What environment? What data sets (size/representative data)? What apples to SI with? Data migration? Upgrades from what previous version(s)? Deployment modes (e.g. cloud-on-prem, public)
L7 Attribute correctness	What attributes are key? Clear about what to meet? Understand tradeoffs? Benchmark with competition? What is the usage profile? How will usage grow over time? Multiligual? ..
L6 Environment correctness	What environments (HW, SW, Data)? Which environments are most used? Are they different for different classes of customers?
L5 Flow correctness	Who uses What & How much? What are the key end to end flows? Aggegate data spec, flow/requirement behaviour conditions. Interaction/linkages
L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Connecting questions & Quality levels

L9 End user value	What is the business benefit expected? Different marketplaces expecting different value? Value comparison with our competitors?
L8 Deployment correctness	What environment? What data sets (size/representative data)? What apples to SI with? Data migration? Upgrades from what previous version(s)? Deployment modes (e.g. cloud-on-prem, public)
L7 Attribute correctness	What attributes are key? Clear about what to meet? Understand tradeoffs? Benchmark with competition? What is the usage profile? How will usage grow over time? Multiligual? ..
L6 Environment correctness	What environments (HW, SW, Data)? Which environments are most used? Are they different for different classes of customers?
L5 Flow correctness	Who uses What & How much? What are the key end to end flows? Aggegate data spec, flow/requirement behaviour conditions. Interaction/linkages
L4 Behaviour correctness	What conditions govern behavior? What is the data spec? What are normal/alternate paths?
L3 Structural correctness	What key structural constructs? What architecture? What tech stack/technologies used? How is all bolted together? How are exceptions/errors handled?
L2 Interface correctness	What are various types of interface? What are various data formats? Any specific data ordering/relationships?
L1 Input correctness	What types of data? What limits/boundaries?

Understanding an user story

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

User Story

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY

Issue/benefit

What are we solving?

What is the expected benefit to the user?

User Story

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHO
User/Persona
Who is this meant for?
The background of user & usage

HOW
Behaviour conditions, Implementation
Business logic & implementation details

User Story

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHAT
Interactions/Collaborations
…with other stories
... other systems

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

HOW
Behaviour conditions, Implementation
Business logic & implementation details

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHAT
Interactions/Collaborations
…with other stories
... other systems

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

HOW
Behaviour conditions, Implementation
Business logic & implementation details

WHAT FOR?
Acceptance criteria
Functional & Non-functional

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHAT
Interactions/Collaborations
…with other stories
… other systems

HOW MUCH
Usage profile
Volume, frequency concurrency
Perception of importance

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

HOW
Behaviour conditions, Implementation
Business logic & implementation details

WHAT FOR?
Acceptance criteria
Functional & Non-functional

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHAT
Interactions/Collaborations
…with other stories
… other systems

HOW MUCH
Usage profile
Volume, frequency concurrency
Perception of importance

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

WHERE
Environment
User's situation/ constraints,
Deployment environment, Data sets

HOW
Behaviour conditions, Implementation
Business logic & implementation details

WHAT FOR?
Acceptance criteria
Functional & Non-functional

User Story - What do we need to understand?

"As a <specific user/persona/role>" I want <desired feature/issue that needs to be solved>, so that <benefit from the feature>"
+ Acceptance Criteria
(www.scrumalliance.org)

WHY
Issue/benefit
What are we solving?
What is the expected benefit to the user?

WHAT
Interactions/Collaborations
…with other stories
… other systems

HOW MUCH
Usage profile
Volume, frequency concurrency
Perception of importance

WHO
User/Persona
Who is this meant for?
The background of user & usage

User Story

WHERE
Environment
User's situation/ constraints,
Deployment environment, Data sets

HOW
Behaviour conditions, Implementation
Business logic & implementation details

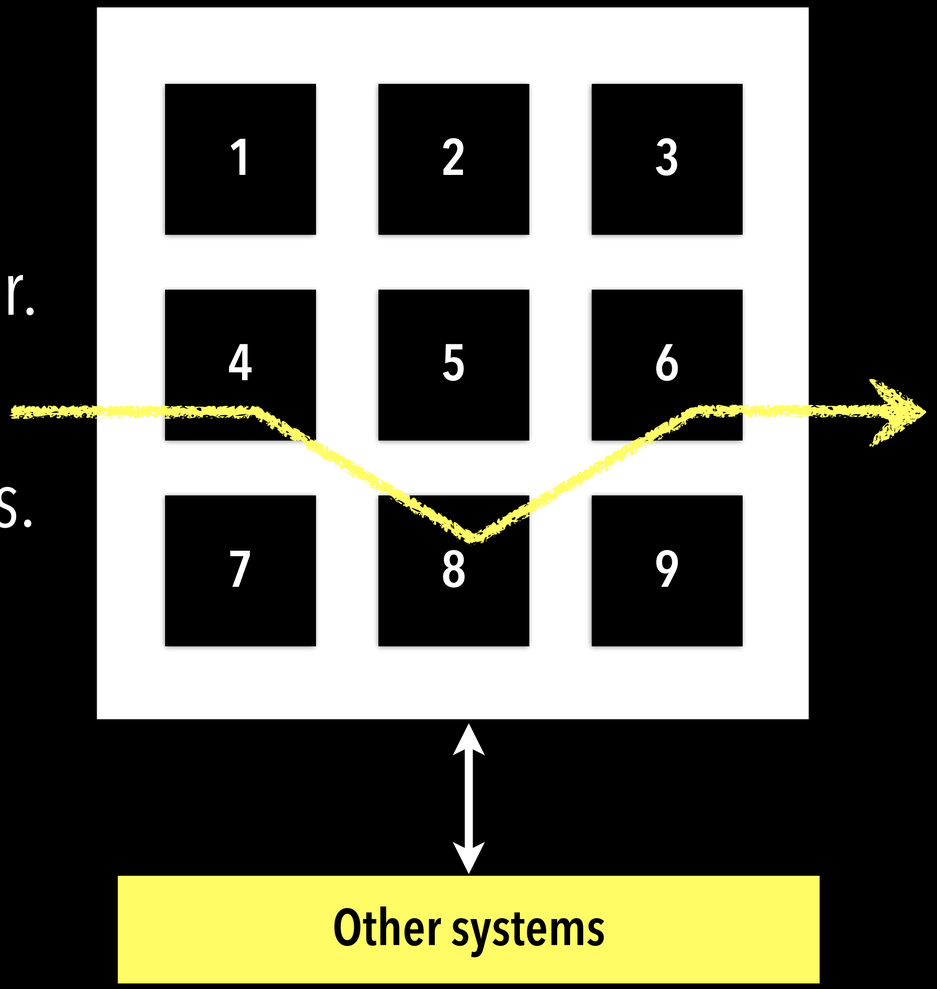
WHAT FOR?
Acceptance criteria
Functional & Non-functional

WHEN
Pre-conditions
System states, prerequisites

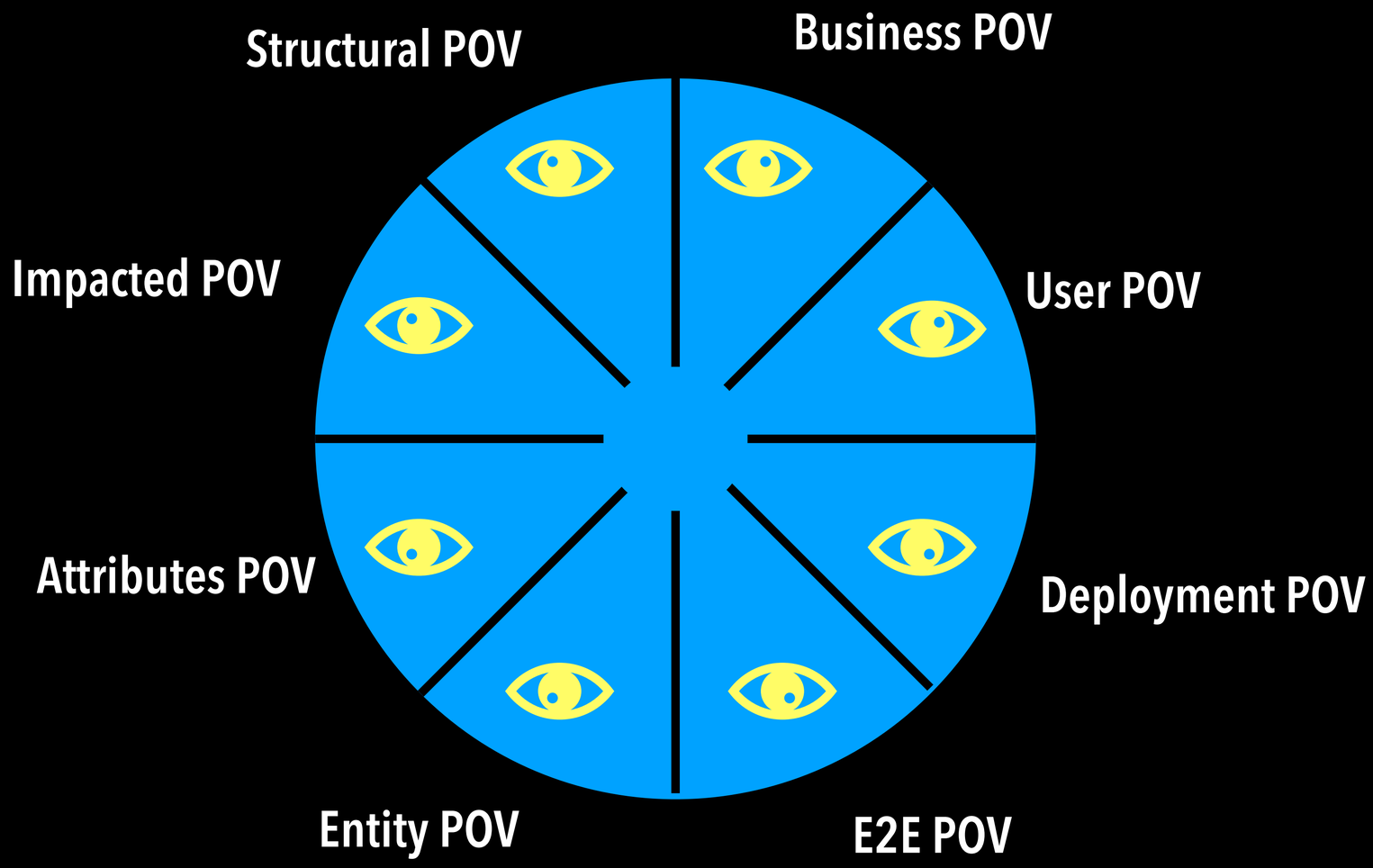
Real life usage

... is a collection of user stories strung together.

Ultimately we need to validate the various flows.



Points of View - POV - Remember?



Shift left-ing

Shift left-ing

REQ	DEV				TEST(QA)				
	L1	L2	L3	L4	L5	L6	L7	L8	L9

SHIFT left to question and know better
SHIFT left to prevent
SHIFT left to ideate easier evaluation
SHIFT left to detect early

Shift left-ing

REQ	DEV				TEST(QA)				
	L1	L2	L3	L4	L5	L6	L7	L8	L9

QUESTION to ensure clarity
Who, What, Where, How-much
Which, How much, How
QUESTION to ideate risk/issues

Clear about attributes?
Clear about behaviour conditions?
Clear about acceptance criteria?
Dig into impact of interactions

SHIFT left to question and know better
SHIFT left to prevent
SHIFT left to ideate easier evaluation
SHIFT left to detect early

Shift left-ing

REQ	DEV				TEST(QA)				
	L1	L2	L3	L4	L5	L6	L7	L8	L9

QUESTION to ensure clarity
Who, What, Where, How-much
Which, How much, How
QUESTION to ideate risk/issues

DIG into IMPLEMENTATION
to identify interesting issues
IDEATE on testability

Clear about attributes?
Clear about behaviour conditions?
Clear about acceptance criteria?
Dig into impact of interactions

Be sensitive to attributes
Do easy tests to check for
- performance, load, volume
- scaling, migration, compatibility

SHIFT left to question and know better
SHIFT left to prevent
SHIFT left to ideate easier evaluation
SHIFT left to detect early

Mapping

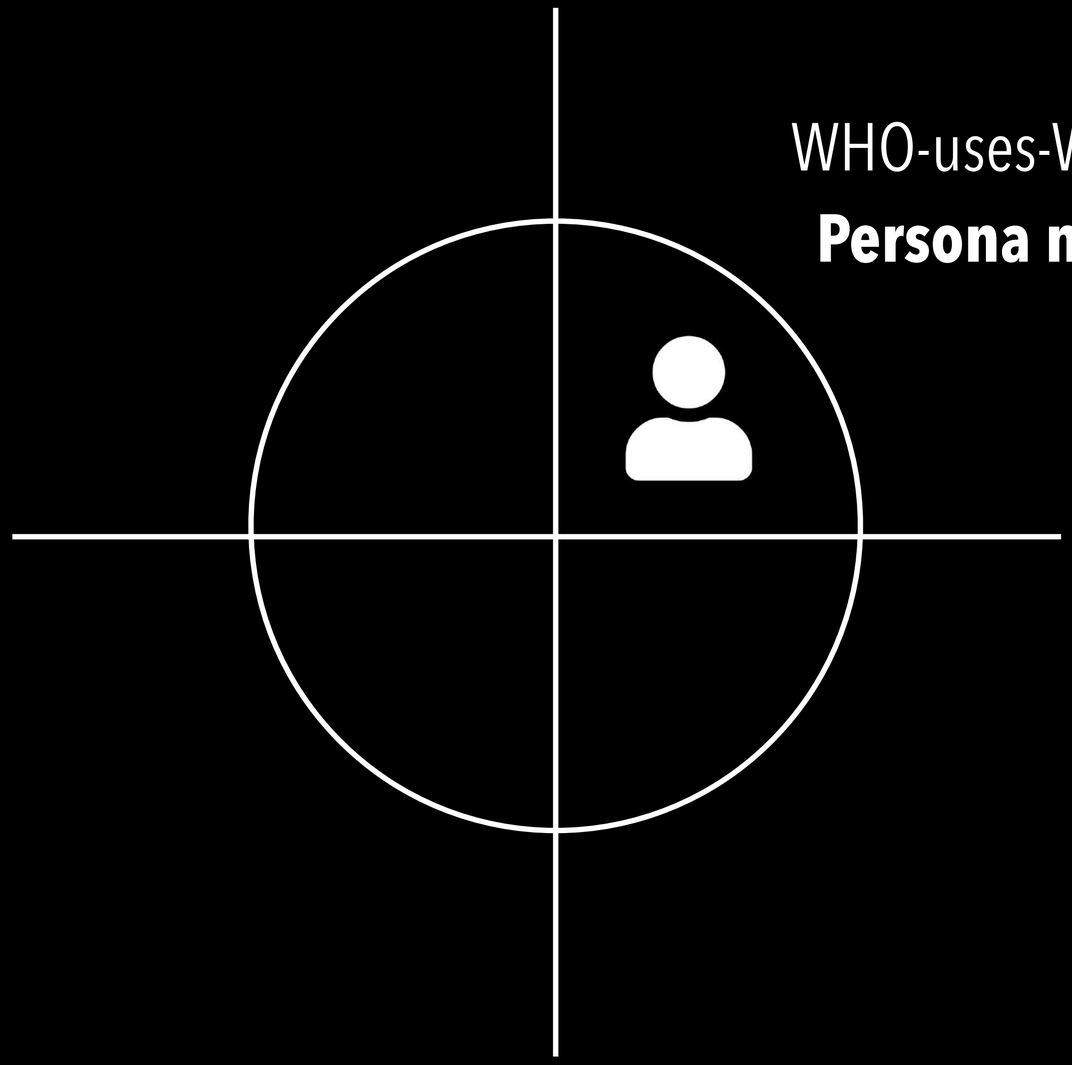
RECONNAISANCE | **EXPLORATION** | **RECOUP**

Get a big picture of system and create maps to explore

who uses what	Persona Map
what is expected of	Scope Map
what affects what	Interaction Map
where is it used	Environment Map

Mapping

As you survey, construct maps.



WHO-uses-WHAT

Persona map

While mapping, note down observations, issues, ideas, suggestions crisply.

As you survey, construct maps.

WHO-uses-WHAT

Persona map

WHAT-is-expected

Scope Map

While mapping, note down observations, issues, ideas, suggestions crisply.

As you survey, construct maps.

WHO-uses-WHAT
Persona map

WHAT-affects-WHAT
Interaction map

WHAT-is-expected
Scope Map

While mapping, note down observations, issues, ideas, suggestions crisply.

As you survey, construct maps.

WHERE-is-it-used
Environment map

WHO-uses-WHAT
Persona map

WHAT-affects-WHAT
Interaction map

WHAT-is-expected
Scope Map

While mapping, note down observations, issues, ideas, suggestions crisply.

Persona map

Persona Map enables you to

See the system from user's POV as to WHO(END USERS) uses WHAT (REQUIREMENTS)

Why is user’s POV necessary?

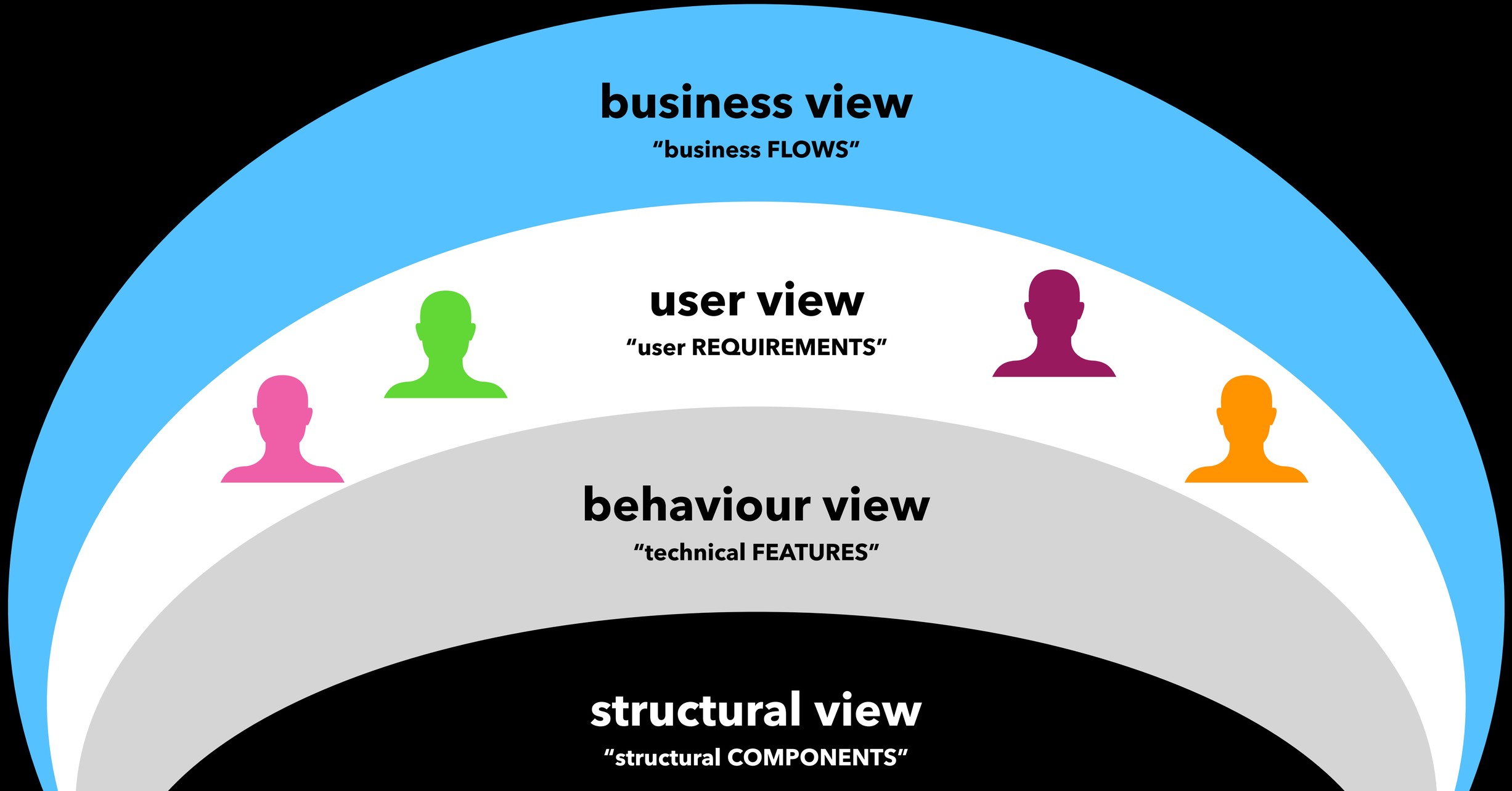
Ultimately the system is intended to used by end users be it a human or another system.

Why is user’s POV necessary?

Ultimately the system is intended to used by end users be it a human or another system.

User’s POV allows us to validate if the system will deliver value to end users and not just test the system features.

views of “THE SYSTEM”



Scope map

Scope Map enables you to
Identify expectations of
users from each entity

User needs are REQUIREMENTS.
User expectations are ATTRIBUTES.

User needs are REQUIREMENTS.
User expectations are ATTRIBUTES.

It is not sufficient to meet functional needs.
It is ***necessary*** to meet the attributes.

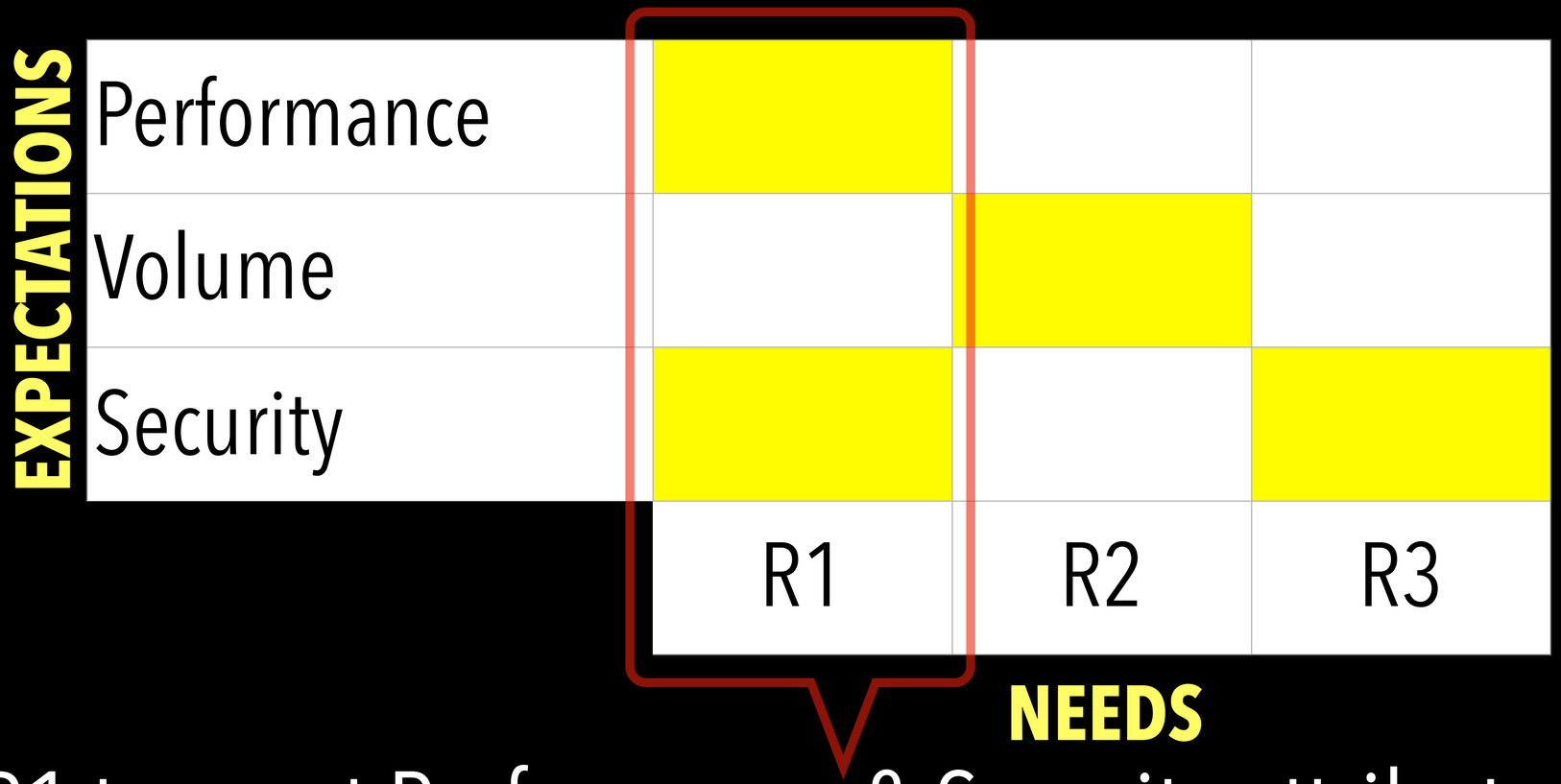
User needs are REQUIREMENTS.
User expectations are ATTRIBUTES.

It is not sufficient to meet functional needs.
It is ***necessary*** to meet the attributes.

CLEAR SCOPE is key to good validation.

Establishing relationship of EXPECTATIONS to NEEDS is the SCOPE

Establishing relationship of EXPECTATIONS to NEEDS is the SCOPE



R1 to meet Performance & Security attributes

Interaction map

Interaction map enables you to

Appreciate associations &
compositions between entities

How are mapping interactions useful?

How are mapping interactions useful?

Understanding how one entity may affect another is useful in doing smart regression testing.

How are mapping interactions useful?

Understanding how one entity may affect another is useful in doing smart regression testing.

Appreciating potential impacts will help in doing modifications cleanly.

What is ‘association’ between entities?

What is ‘association’ between entities?

Association is a relationship between two similar entities where one entity may impact the other.

What is ‘association’ between entities?

Association is a relationship between two similar entities where one entity may impact the other.

technical FEATURE

user REQUIREMENT

business FLOW

What is ‘composition’ of entities?

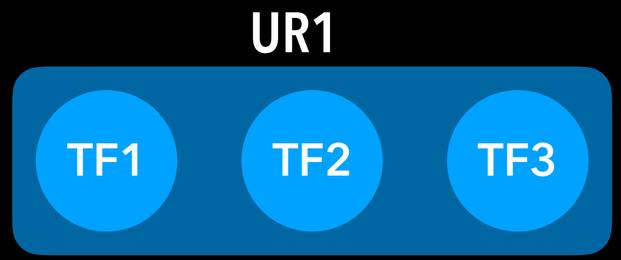
What is ‘composition’ of entities?

Composition is ‘has-a’ relationship between entities of different types.

What is ‘composition’ of entities?

Composition is ‘has-a’ relationship between entities of different types.

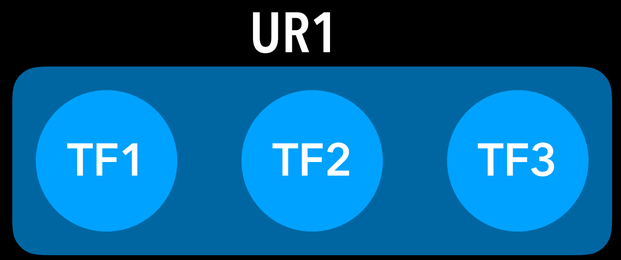
For e.g. an user requirement that is using three technical features in a sequence



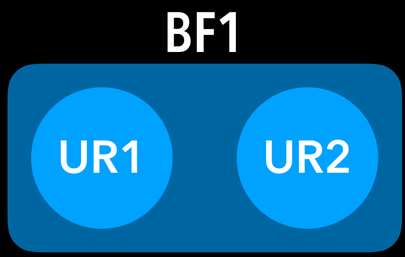
What is ‘composition’ of entities?

Composition is ‘has-a’ relationship between entities of different types.

For e.g. an user requirement that is using three technical features in a sequence



For e.g. a business flow that is using two user requirements in a sequence



Environment map

what is an Environment Map?

It is set of various HW/SW elements used/supported by a system.

what is an Environment Map?

It is set of various HW/SW elements used/supported by a system.

For example an UI environment could be:

ELEMENTS	
Device	PC, Tablet, Mobile
OS	Windows, Unix, Android, IOS
Browser	IE, Chrome, Firefox, Safari

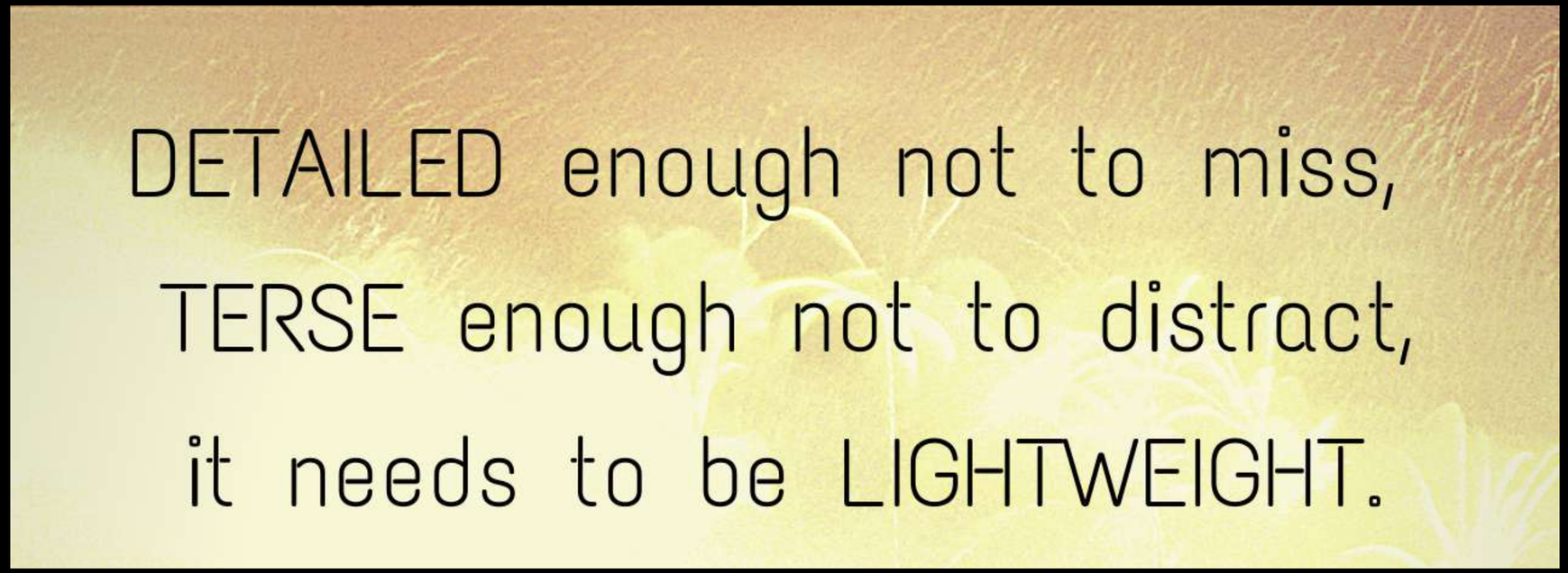
ENVIRONMENT	
1	(PC, Windows, IE)
2	(iPad, IOS, Safari)
3	(Mobile, Android, Chrome)
4	(PC, Unix, Firefox)

Lightweight note taking

Observing , connecting and understanding demand **good note taking**.

Jotting down interesting bits of information, questions, observations, potential issues, ideas and issues noticed.

It requires **light weight note taking.**



The focus is to **help you remember**, **not distract**,
to help you connect various elements and do well.

So how can I do lightweight note taking?

Use keywords, short phrases to record information.
Be free form in writing, write anywhere, any direction.
Use pictures, doodles, mind-map(s), word-art.

So how can I do lightweight note taking?

Use keywords, short phrases to record information.
Be free form in writing, write anywhere, any direction.
Use pictures, doodles, mind-map(s), word-art.
Use Post-Its. Use simple editor, note-pad.
Be liberal with colours.
Tag information -
as questions, ideas, observations, scenarios,
stuff to check-out, potential issues and bugs.

Thank you.

www.stagsoftware.com