Requirements Development and Management. Overview.

TRAINING
CENTER

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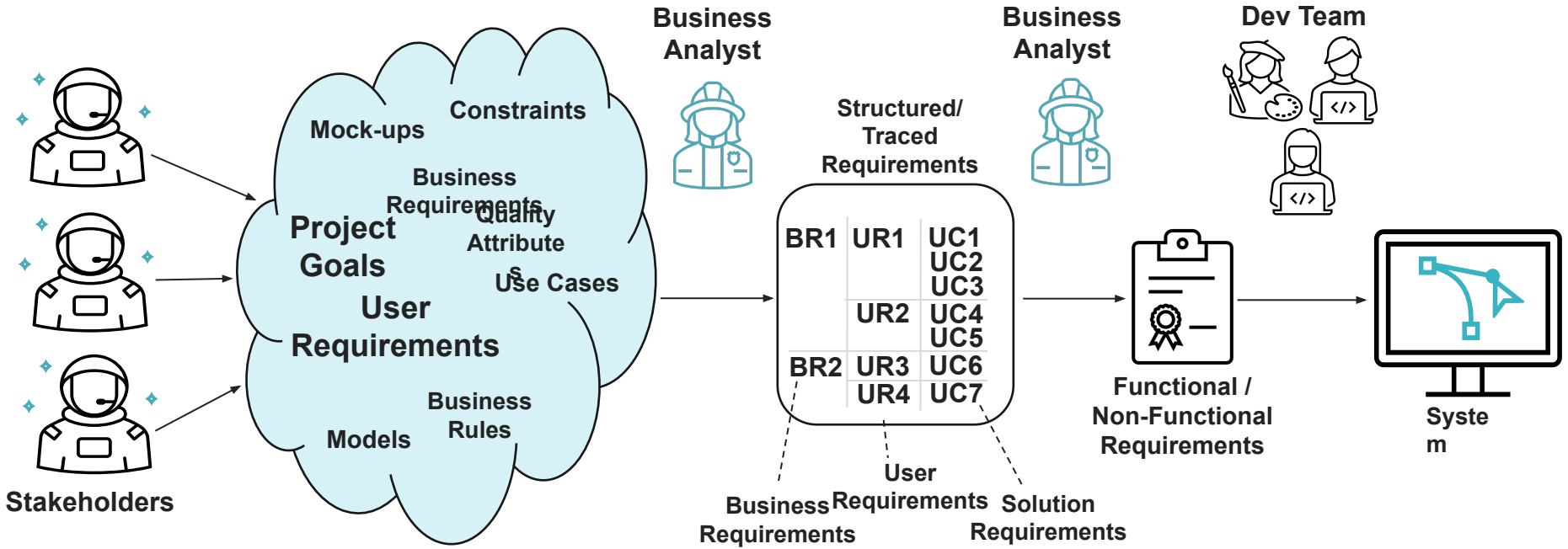
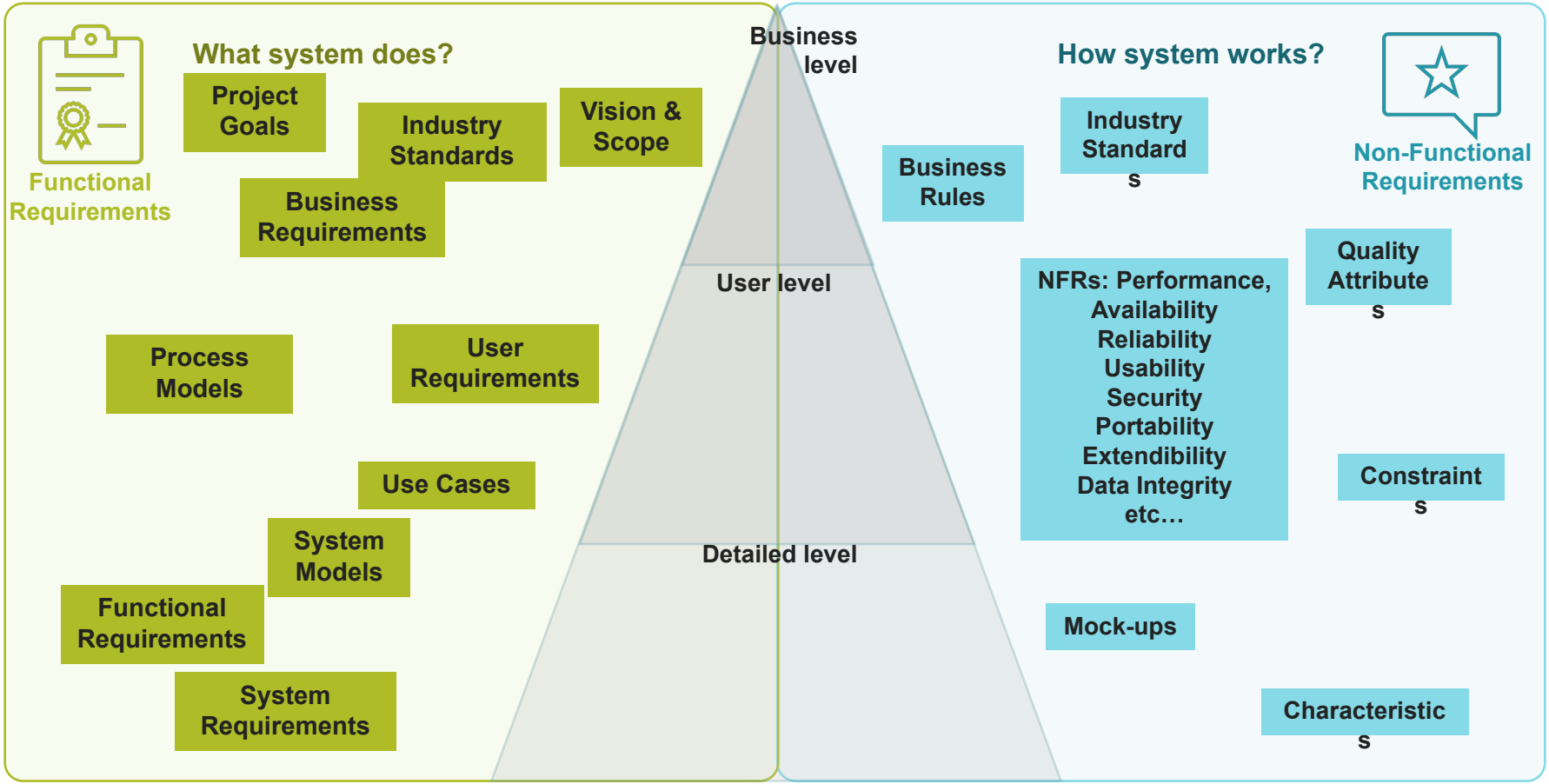

Stakeholders
Mock-ups
Constraints
Business Requirements
Quality Attributes
Project Goals
Use Cases
User Requirements
Business Rules
Models
Business Analyst
Structured/ Traced Requirements
BR1
UR1
UC1
UC2
UC3
UR2
UC4
UC5
BR2
UR3
UC6
UR4
UC7
Business Analyst
Dev Team
Functional / Non-Functional Requirements
Syste m
Business Requirements
User Requirements
Solution Requirements

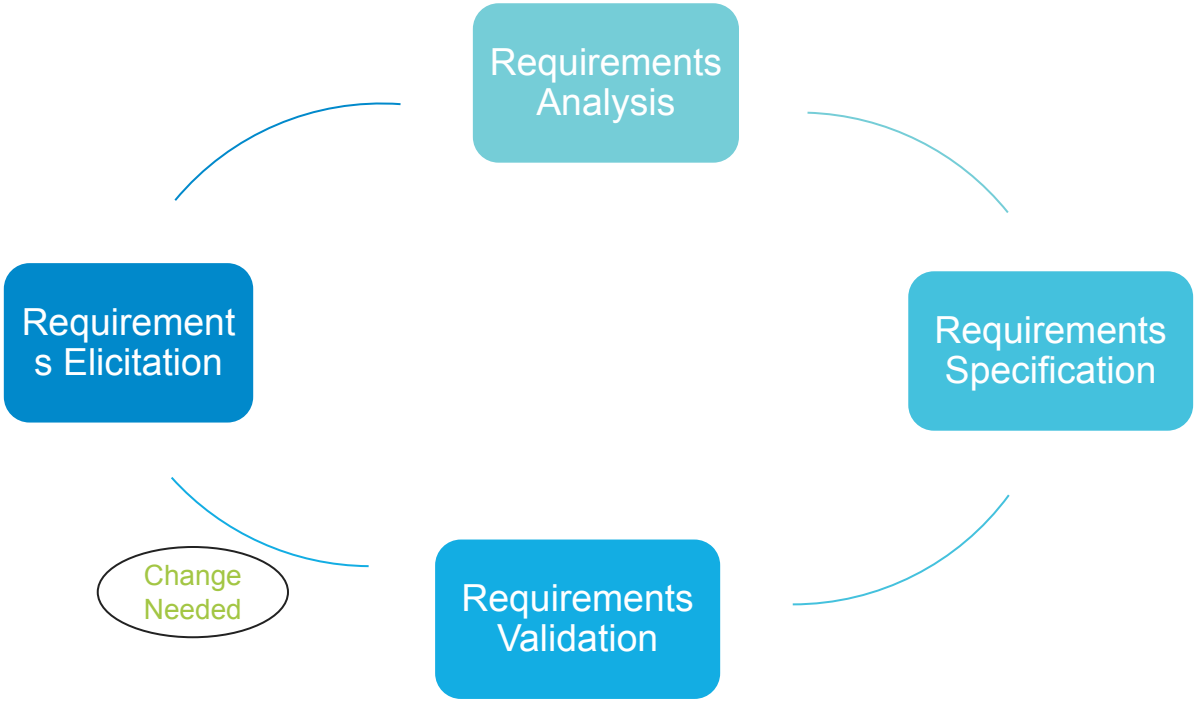
LEVELS OF REQUIREMENTS



EXAMPLES OF REQUIREMENTS

	Idea behind	Example
Business Requirements	Why the organization needs this system?	We as an airline want to reduce the cost of check-in counter employees by 25%
User Requirements	What user should be able to do within the system?	Passenger shall be able to quickly check in for the flight
User Story	What user should be able to do within the system to achieve the goal?	As a passenger I want to be able to check in quickly to get to the plane in time
Functional Requirements	What functions the system should perform?	FR1 System shall allow the user with “Customer” role to select the Flight from the dropdown list FR1.1 The list of Flights shall include Flights labelled as “Outbound” only
Non-Functional Requirements	How should the system behave?	System shall support 10 000 CCU

REQUIREMENTS DEVELOPMENT CYCLE

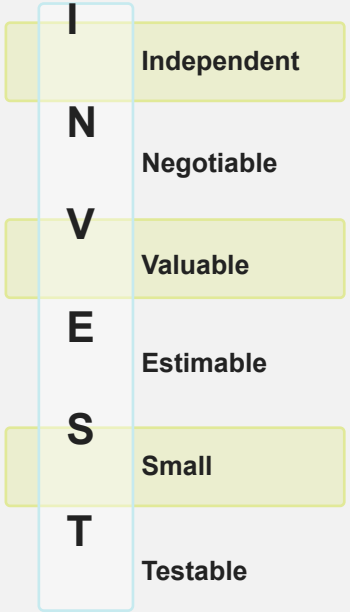


QUALITY OF REQUIREMENTS

	Idea behind
Correctness	**to cover all the requirements that are expected from the system**
Unambiguousness	**to make sure that there's only one interpretation**
Completeness	**all parts of requirements are fully documented**
Modifiability	can be changed without unwanted consequences
Feasibility	it should be possible to implement the requirement within the timeframe and the budget
Testability	**it should be easy to generate test cases from the requirements**
Prioritization	**to have the criterion to classify the requirements as less or more important**
Consistency	**there's no conflicts between the requirements**
Traceability	ability to trace requirements to design component, test case and code segment

Set of requirements

Agile



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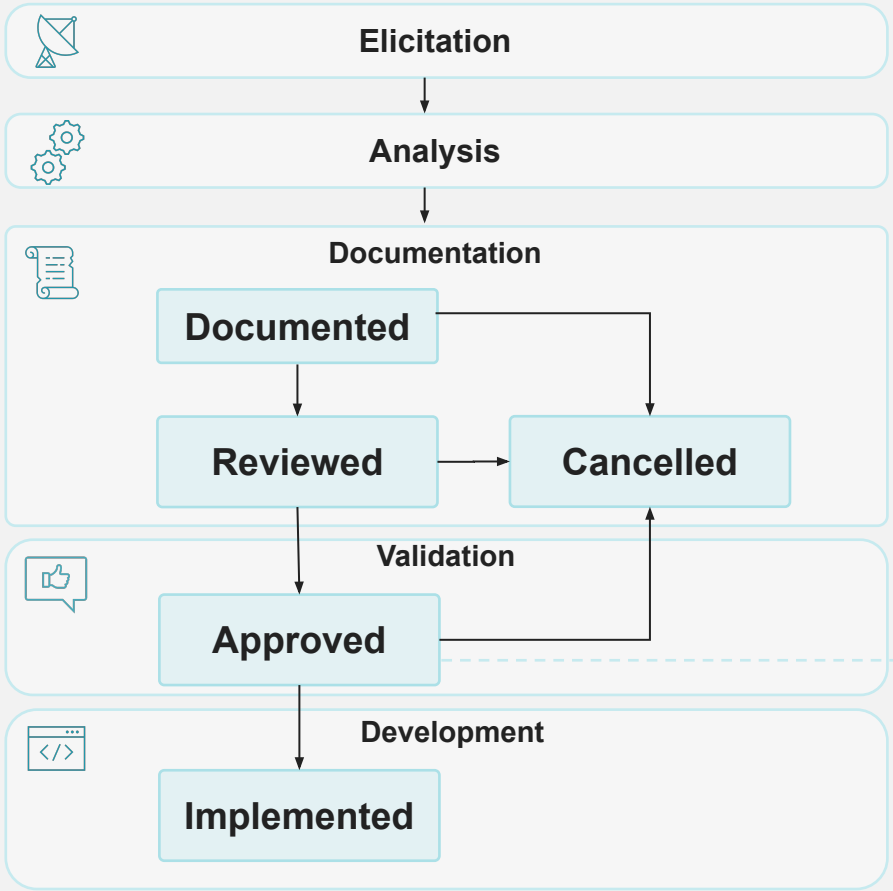
REQUIREMENT LIFECYCLE



Baseline. Its version can be updated via Change Management process

Requirements management knowledge area describes the tasks that business analysts perform in order to maintain the integrity, accuracy, and currency of requirements:

- Maintaining Requirements
- Tracing Requirements
- Prioritizing Requirements
- Requirements Change Management
- Approving Requirements

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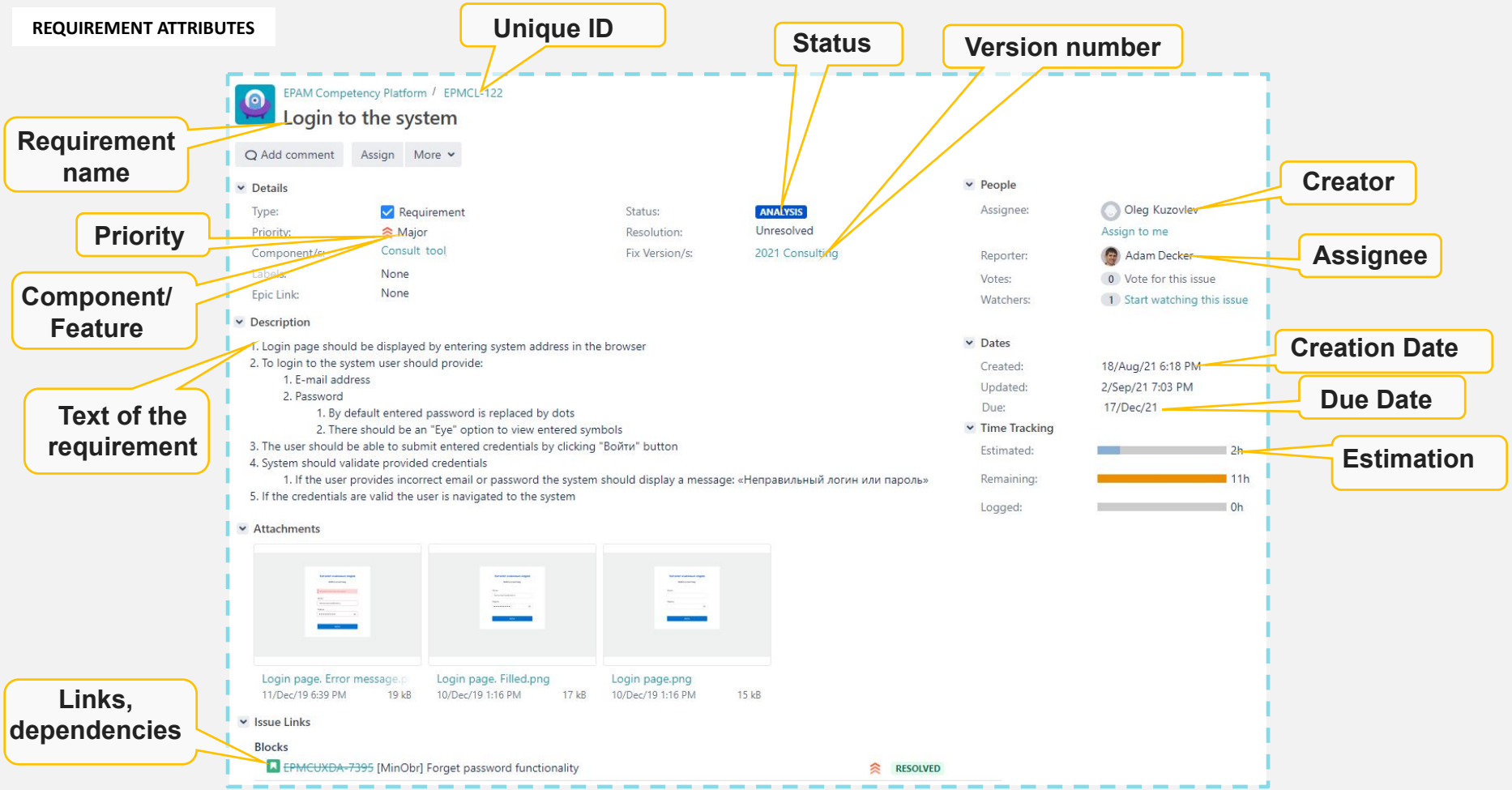
REQUIREMENT ATTRIBUTES



	TC ID	TC_1	TC_2	TC_3	TC_4	TC_5	TC_6	TC_7	TC_8	TC_9	TC_10
Req. ID											
Req_1											
Req_2											
Req_3											
Req_4											
Req_5											

Purpose of Traceability Matrix:

- Helps to find the context if requirements have been changed
- Control integrity of requirements and linked activities

Traceability Matrix

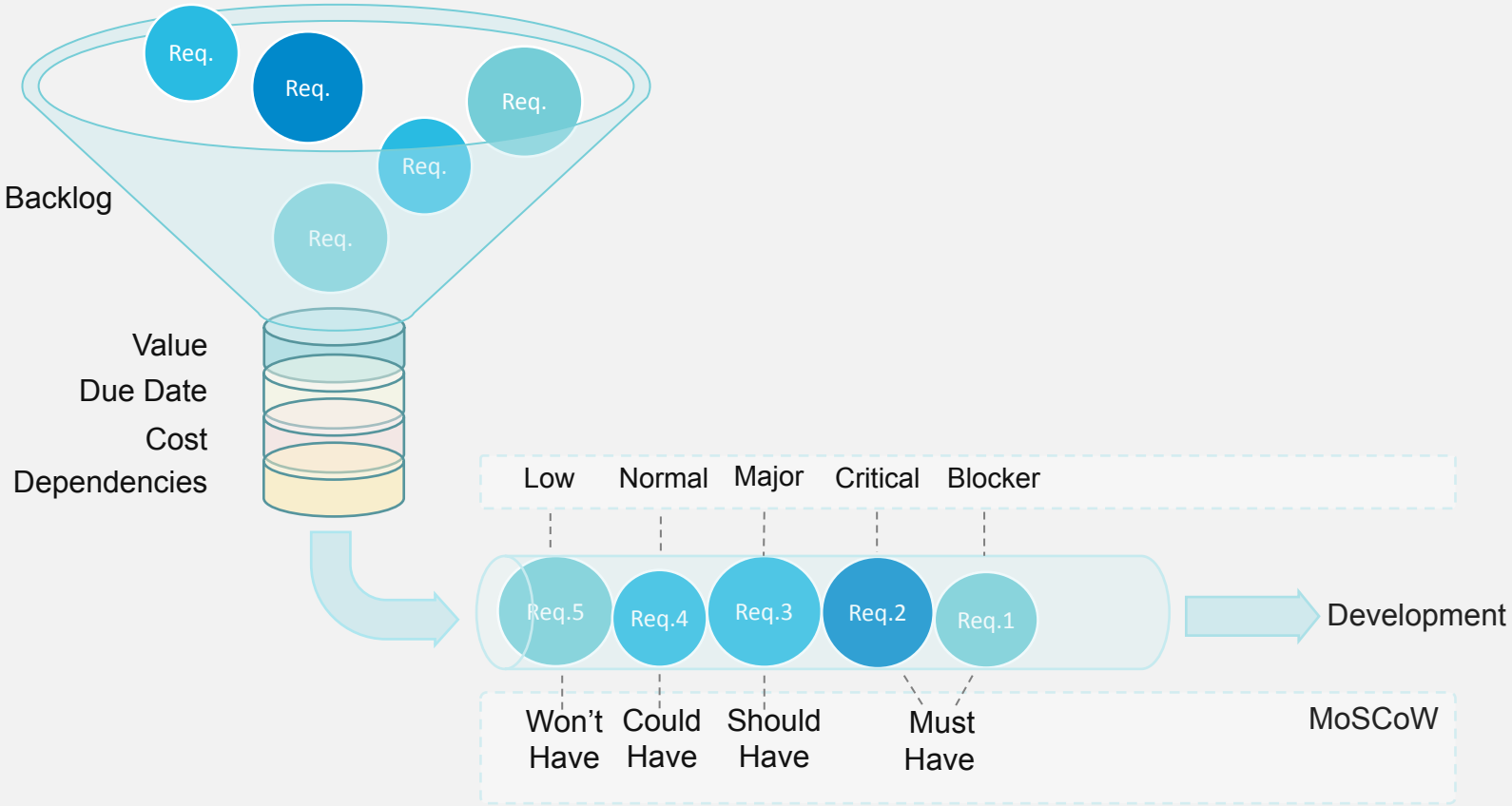
Project Name	Claims Module R123		Created on	9/14/2021	Reviewed o	9/17/2021	
Release No	1		Created By	Ivanov Ivan	Reviewed b	Petrov Petr	
Version	1						

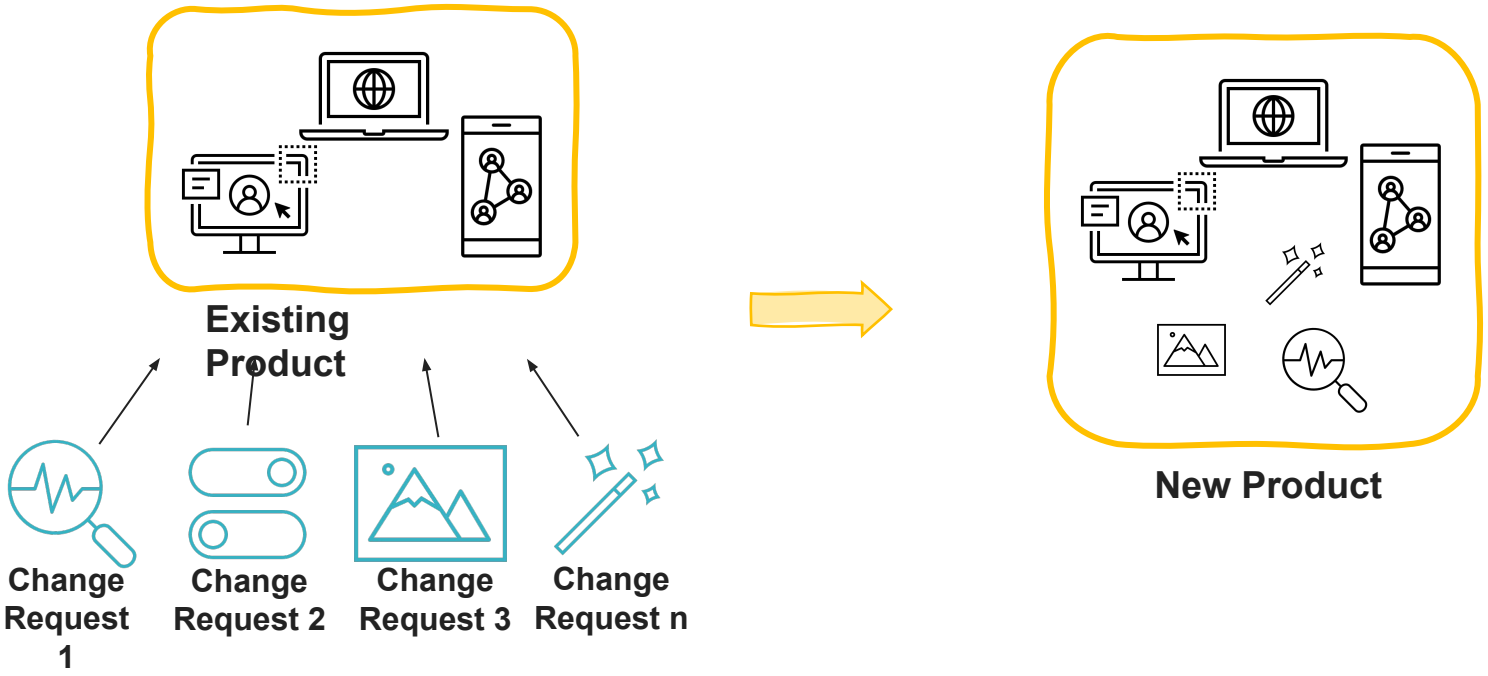
R ID	Requirement	Status	Design Task	Dev Task	Test Case ID	User Manual	Dependencies
BR1	Reduce the time for Claim processing by 20%						
UR1	Ability to register the Claim						
FR1	System shall allow Claim User to create a Registration card	Ready for Dev	CLM-213		TC-2.12		CLM-214, CLM-324
FR2	System shall allow Claim User to edit a Registration card	Ready for Dev	CLM-214	CLM-328	TC-2.13, TC-2.14, TC-2.15, TC-16		CLM-213
FR3	System shall allow Claim User to delete a Registration	Ready for Dev	CLM-215	CLM-329	TC-2.17, TC-2.18		CLM-224, CLM-234
FR4	System shall allow Claim User to review existing Registration card	Approved	CLM-216		TC-2.15		
UR2	Ability to search for the Claim						
FR5	System shall provide an interface for a Claim User for inputting the search query	Open	CLM-323				

Vertical traceability

Horizontal traceability

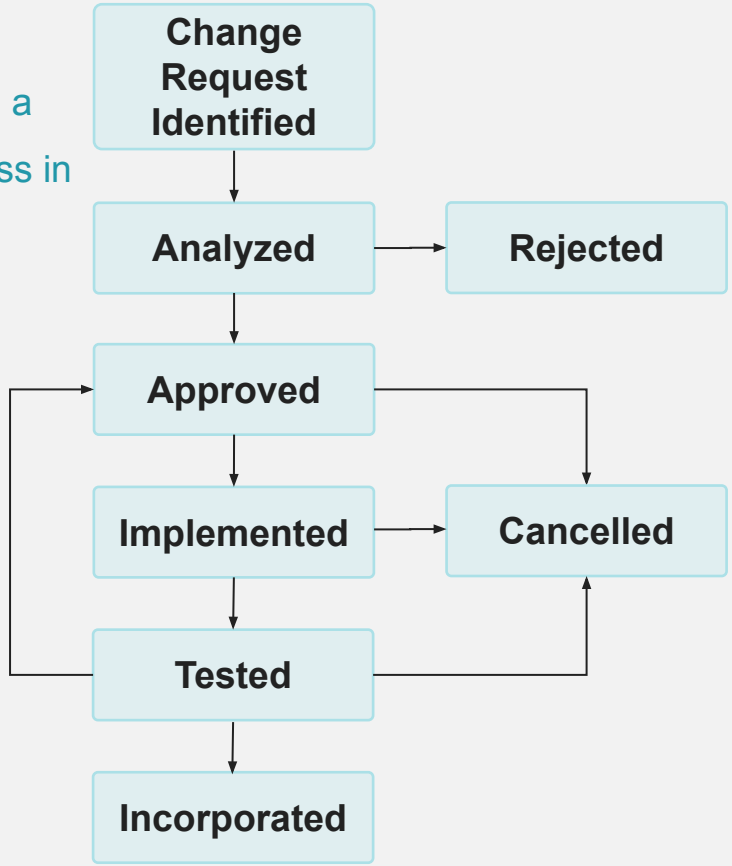
REQUIREMENTS' PRIORITIZATION



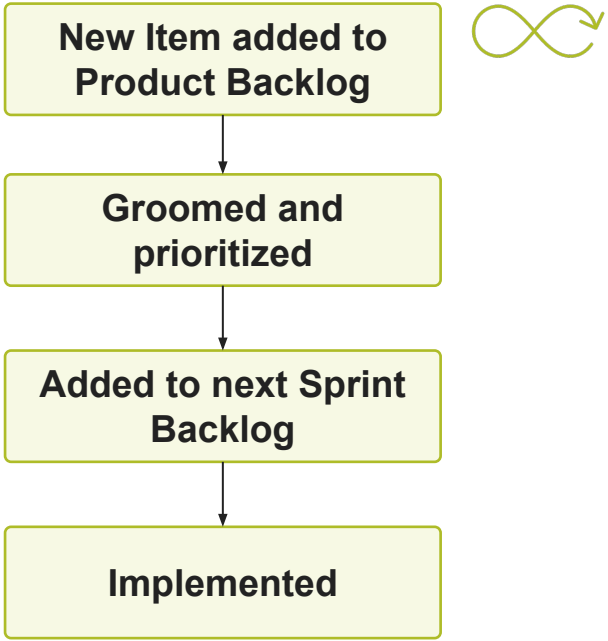

Existing Product
Change Request 1
Change Request 2
Change Request 3
Change Request n
New Product

REQUIREMENTS CHANGE MANAGEMENT FLOW

Change Management is a separate process in Plan-oriented frameworks



Change Management mechanisms are already built-in to Scrum



User Acceptance Testing (UAT)

- The last phase of the software testing process.
- Performed by stakeholders on the client side
- The goal is to assess whether the software can fulfill business goals and user scenarios.

Verification

Goal:
Make sure the requirements are being **written right**

How to:
Check **consistency** of requirements

Methods:
Check Lists (DoR)
BA Lead's review
Peer review

Validation

Goal:
Make sure the r**ight requirements** are being written.

How to:
Check that requirements fully meet **stakeholders' goals**

Methods:
Demo,
Feedback request
Artifacts' review
UAT