

Passive voice requirements

Why "passive voice" actually can become a nightmare



Christer Fröling

CEO

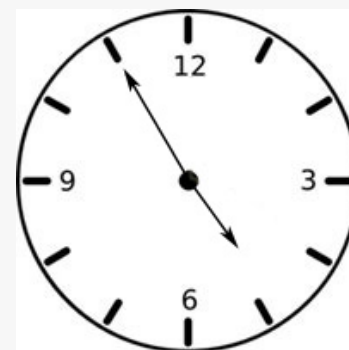
REUSE Scandinavia

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THE
REUSE
COMPANY

Starts in a few
minutes.....



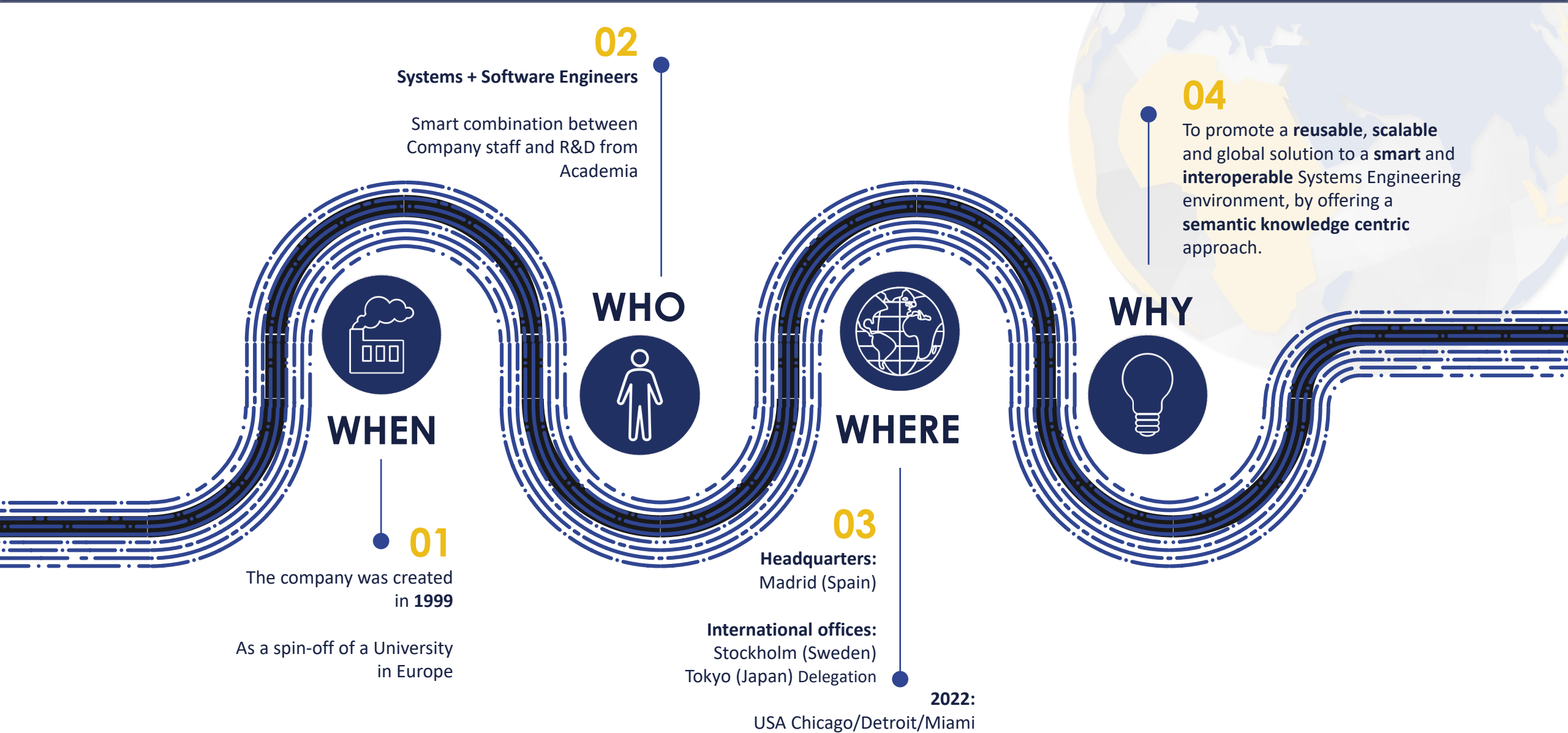


- Short intro to The Reuse Company and the Presenter
- What is passive voice?
- What harm can it do to a project?
- How can these requirements be detected?
- Short demo of RQA
- Q&A





Introduction to TRC and the Presenter





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Christer Fröling is a Swedish citizen acting in the role of the **CEO for Reuse Company Scandinavia**. He has over **two decade of experience** in successful implementation of **Systems Engineering (SE)** and its sub-disciplines in a variety of roles and technical domains.

He has **experience** from both **developing advanced technical systems** as well as **helping public organizations** in the specification and **procurement** of complex infrastructure projects.

Christer specializes as a **principal consultant in applying SE and “design thinking”** into organizations willing to adopt change and implement a **knowledge driven** and **Lean SE approach** focusing on information quality, knowledge buildup and reuse with a passion of coaching others.

He is an **appreciated lecturer, teacher** and a strong **believer in knowledge sharing** and networking.



What is passive voice?



WHAT IS PASSIVE VOICE?

➤ Passive voice is when you write a sentence in which

The **SUBJECT** receives an **ACTION** meaning that the **OBJECT** will “change position” with the true **SUBJECT** actually performing the action in question, example:

ACTIVE VOICE:

The **ENGINEER** blew up the **BRIDGE**

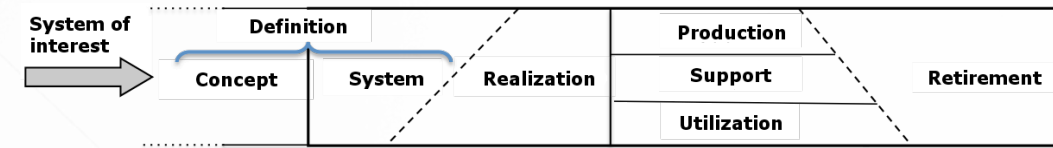
PASSIVE VOICE:

The **BRIDGE** was blown up by the **ENGINEER**

But what does this mean when formulating requirements?



**What harm can
it do to a
project?**



PASSIVE VOICE in requirements formulation

- **PROJECTS** often have many different types of specifications, example;
 - Project specifications (SoW)
 - Technical requirement specifications;
 - System level specifications SyRS, SSS)
 - Software design requirement specifications (SRS)
 - Interface requirement specifications (IRS, ICD)
 - Transition to use and support specifications;
 - Service level agreements (SLA)
 - Contractor logistics support agreements (CLS)

EXAMPLE of a real requirement:

“Critical errors SHALL be detected within one minute from occurrence.”

Is this clear to all Stakeholders in the project?

PASSIVE VOICE in requirements formulation

- Typically we suggest you to use PATTERNS when stating a functional requirements to help in getting a correct requirement.
- Example is the EARS pattern:

EARS Patterns

Pattern Name	Pattern
Ubiquitous	The <system name> shall <system response>
Event-Driven	WHEN <trigger> <optional precondition> the <system name> shall <system response>
Unwanted Behavior	IF <unwanted condition or event>, THEN the <system name> shall <system response>
State-Driven	WHILE <system state>, the <system name> shall <system response>
Optional Feature	WHERE <feature is included>, the <system name> shall <system response>
Complex	(combinations of the above patterns)

“Critical errors SHALL be detected within one minute from occurrence.”

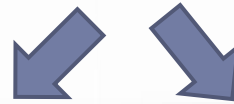
The example “fits” the basic pattern, but what does this mean for a project?

PASSIVE VOICE in requirements formulation



“Critical errors SHALL be detected within one minute from occurrence.”

System function



Contractor obligation after system delivery

Technical Specification

1. System error detection capability

This section describes the system functions and capabilities to detect, manage and respond to critical system errors.

[REQ-001] Critical errors SHALL be detected within one minute from occurrence.

Service level agreement

1. Contractor error detection capability

This section describes the need for Contractor assistance in detecting, managing, and reporting critical system errors to the Buyer.

[REQ-001] Critical errors SHALL be detected within one minute from occurrence.

THE PROBLEMS ARE:

=> The **SUBJECT** (performing the action “detect”) is stated in the document heading and not in the requirement itself !

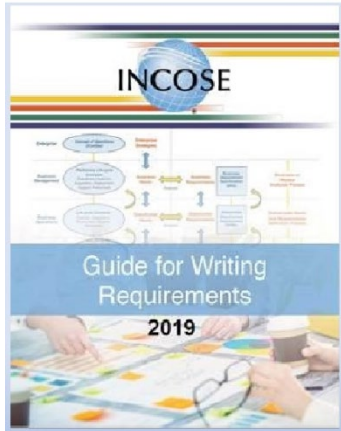
=> The **OBJECT** “critical errors” for the action has been masked as the subject

- **What happens if the requirement is copied or moved?**



**How can these
requirements be
detected?**

- You have to **review the requirements** to find these defects!



4.1.2 R2 - /ACCURACY/USEACTIVEVOICE

Use the active voice in the main sentence structure with the responsible entity clearly identified.

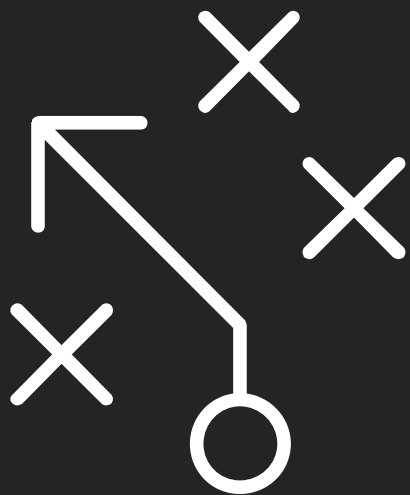
Elaboration:

The active voice requires that the entity performing the action is the subject of the sentence, since the onus for satisfying the requirement is on the subject, not the object of the sentence. If the entity responsible for the action is not identified explicitly, it is unclear who or what should perform the action making verification of that requirement very difficult. Including the entity in the subject also helps ensure the requirement refers to the appropriate level consistent with the entity name (see R3 /Accuracy/Subject).

Often when the phrase “shall be” is used, the statement is in the passive voice.

or use:





Short demo of RQA

File

Quality Control

Workbook configuration

Quality Assurance

Worksheet selector

System Requirements

Current state

Snapshot

Evolution scoreboard

Quality view

Metrics

Users

Metrics

Consistency

Completeness

Suggestions

Knowledge base

Search

Close

Drag a column header here to group by that column

	C.	Project	Worksheet	ID	Label	Workproduct name	Correctness	Score	Mandatory m...	Correctness quality date	Consistency	Issues
	<input checked="" type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	14a461a7-cb0c-4d9e-a4a...	N/A	This specification has been developed within UIC Project EIRENE. It specifies a digital radio standard for the European rail...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	4e271645-8fc3-4d05-ac6...	N/A	The EIRENE System Requirements Specification defines the set of requirements which a railway radio system shall comply...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	5bcacd8f-37de-4b68-a67...	N/A	The EIRENE Functional Requirements Specification [EIRENE FRS] specifies the functional requirements for EIRENE. (I)	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	483e3a99-4fff-4a73-8b6e...	N/A	The specification distinguishes between requirements affecting a railway's network infrastructure, onto which mobiles will...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	027a34de-874a-4889-b3...	N/A	The statements made in the specification are assigned to one of three categories: (I) - Mandatory (indicated by '(M)' at th...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	925d47a9-0a31-4bea-be...	N/A	The EIRENE System Requirements Specification defines a radio system satisfying the mobile communications requiremen...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	85b4ce0e-e85d-48aa-b14...	N/A	The application of this specification will ensure interoperability for trains and staff crossing national or other borders bet...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	e3d2095d-ed4b-420a-84...	N/A	3GPP Third Generation Partnership Project AoC Advice of Charge ARFCN Absolute Radio Frequency Channel Number AT...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	ef77037e-adc3-4db8-807...	N/A	EIRENE FRS :UIC Project EIRENE Functional Requirements Specification', PSA167D005-7 MORANE EURO FFFIS :Radio...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	3b709914-0a39-453e-a13...	N/A	The system is based on the ETSI GSM standard. To meet additional functionality and performance requirements, this stan...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	5e978393-830a-40b7-89...	N/A	The scope of the specification is shown in figure 1-2, showing the hierarchy of the GSM, and railway features to be imple...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	dc2a0436-71bf-4ec3-888...	N/A	A list of ETSI and 3GPP specifications is provided in the normative references section of this document. (I)	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	298114fe-1575-4aa6-8ef...	N/A	Compliance to the list of normative documents is mandatory for all of the GSM services necessary to provide the functio...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	a0dbf0b4-f18f-4c39-8674...	N/A	Later releases of these specifications may be used, providing that the system is backwards-compatible with the versions li...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	0850fc8b-1c57-4039-b8a...	N/A	The system is based on the GSM architecture which is summarised in figure 1-3. (I)	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	602e1130-1ff6-40e3-948...	N/A	The system comprises the following elements: (I)	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	b7320a99-0a12-426e-996...	N/A	Base station sub-systems (BSSs) of base station controllers (BSCs) controlling base transceiver stations (BTSs) each contai...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	ad38798d-bc28-4d8b-8fb...	N/A	Network sub-systems (NSSs) interfacing to the BSS via the GSM 'A' interface. The NSS contains mobile services switching...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	a8a8b56f-dda3-41ec-8de...	N/A	The network also comprises General Packet Radio Service (GPRS) infrastructure elements supporting the respective packe...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	6e160b13-d684-4009-be...	N/A	Mobile equipment (ME) interfacing to the BSS via the air (Um) interface.	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	22313eb0-859d-4488-b8...	N/A	Subscriber Identity Modules (SIMs) containing information specific to single subscribers. A standardised interface links m...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	0c55dcb1-8b56-4432-88...	N/A	Operation and Maintenance Centre (OMC) for managing the network.	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	941da9e1-6d25-4d28-89...	N/A	Billing Centre shall be managed using a central server.	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	735259b1-5552-49c1-889...	N/A	Signalling within the NSS and between NSSs is carried out according to signalling system number 7, SS7, making specific...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	8c0fcbe0-821c-4fec-a1c5...	N/A	Railway networks may implement a short message service centre to be interfaced to the GSM network in order to suppor...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	d89ea3b7-0528-4a17-ba...	N/A	A railway GSM network is also likely to have external interfaces to: (I) - private railway fixed networks; - public operator ne...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	c4ceaa47-c435-4796-80a...	N/A	EIRENE will provide the radio bearer for ERTMS/ETCS. The EURORADIO layers are responsible for ensuring the overall saf...	★★★★	N/A	0	N/A	★★★★	N/A
	<input type="checkbox"/>	EIRENE-PROJECT.xlsx	System Requirements	e4c12e77-cbe5-49ae-91f...	N/A	In addition to a GSM capability, a direct mode capability may be provided for railway mobiles for set-to-set operation. (I)	★★★★	N/A	0	N/A	★★★★	N/A

Total items: 547 , Requirements: 547

☒ Hide non-requirement

Custom report

Short worksheet quality report

Full worksheet quality report

Assess quality

Author work-product

RMS Repository: 2. DEMOKRAVFLER; Project: EIRENE-PROJECT.xlsx

RMS User: LAPTOP-OJONU084/CHRISTER.FROLING

Connected as 'ChristerF' to 'ONTOLOGY V18.3 (english)' from 'MySql' @ 'localhost'

PASSIVE VOICE in requirements formulation

“Critical errors SHALL be detected within one minute from occurrence.”



Technical Specification

2. System error detection capability

This section describes the system functions and capabilities to detect, manage and respond to critical system errors.

[SSS-001] The System SHALL detect critical errors within one minute from occurrence.

Service level agreement

2. Contractor error detection capability

This section describes the need for Contractor assistance in detecting, managing, and reporting critical system errors to the Buyer.

[SLA-001] The Contractor SHALL detect critical errors within one minute from occurrence.

System "PBS"

System element 1

System element 2

SOLUTION:

- DETECT PASSIVE VOICE USING RQA
- RE-WRITE USING A PATTERN AND A CLEAR SUBJECT
- STRUCTURE YOUR SET OF REQUIREMENTS FOR READABILITY



The End





Semantic traceability: how to keep the digital thread all along the SE lifecycle




SES ENGINEERING Studio connecting to everything




Date:

October 11 and 13, 2022

<https://www.reusecompany.com/webinars/semantic-traceability-how-to-keep-the-digital-thread-all-along-the-se-lifecycle>






The REUSE Company

265 prenumeranter

PRENUMERERAR




HEM

VIDEOR

SPELLISTOR

KANALER


OM



RQA - QUALITY Studio

► SPELA UPP ALLA

RQA - QUALITY Studio allows you to define, measure, manage and improve the quality of your requirements, models, documents etc.




Model Based Requirements Engineering

1:41

SES ENGINEERING Studio for Requirements

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89 visningar • för 4 månader sedan




RQA for MBSE

1:00:20

Raise the ante: high-quality models is the only way...

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45 visningar • för 5 månader sedan




VALUE PROPOSITION
STEPS TO ASSESS YOUR QUALITY
03

12:53

How to generate a quality report of your requirements...

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72 visningar • för 10 månader sedan




DEEPLYING INCOSE CONSISTENCY APPROACH
3 INCOSE CHALLENGES
02
TAILORING & EXTENSION

47:57

Why Challenging the INCOSE Consistency metrics might...

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66 visningar • för 11 månader sedan




Requirement's completeness
Tips and tricks

1:12:01

Completeness: tips and tricks for high-quality...

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113 visningar • för 11 månader sedan



What is Requirements Correctness ?

1:12:53

Improve the quality of your requirements using advanc...

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116 visningar • för 1 år sedan

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