Passive voice requirements

Why ”passive voice” actually can become a nightmare

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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

ABOUT THE REUSE COMPANY

WHEN

01

The company was created in **1999**

As a spin-off of a University in Europe

WHO

02

Systems + Software Engineers

Smart combination between Company staff and R&D from Academia

WHERE

03

Headquarters:
Madrid (Spain)

International offices:
Stockholm (Sweden)
Tokyo (Japan) Delegation

2022:
USA Chicago/Detroit/Miami

WHY

04

To promote a **reusable**, **scalable** and global solution to a **smart** and **interoperable** Systems Engineering environment, by offering a **semantic knowledge centric** approach.

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?

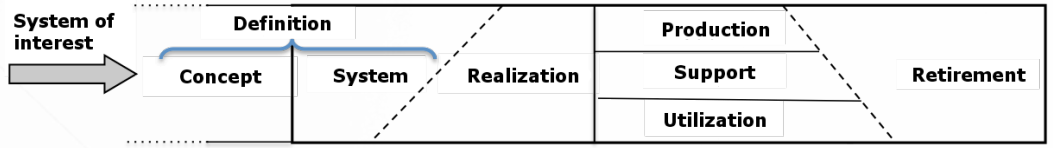
- Passive voice is when you write a sentence in which

  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:	**PASSIVE VOICE:**
The ENGINEER blew up the BRIDGE	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

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.

Contractor obligation after system delivery

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:

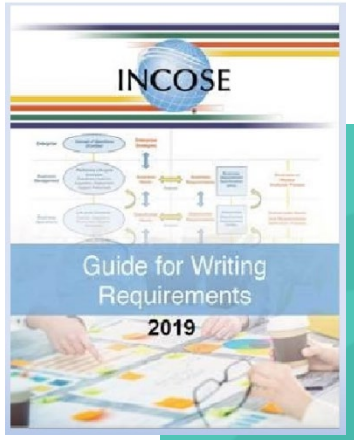
=> The SUBJECT (performing the action "detect") is stated in the document heading and not in the requirement itself !

=> 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!

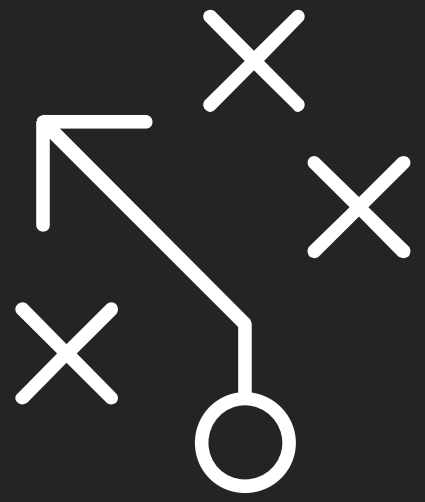


or use:

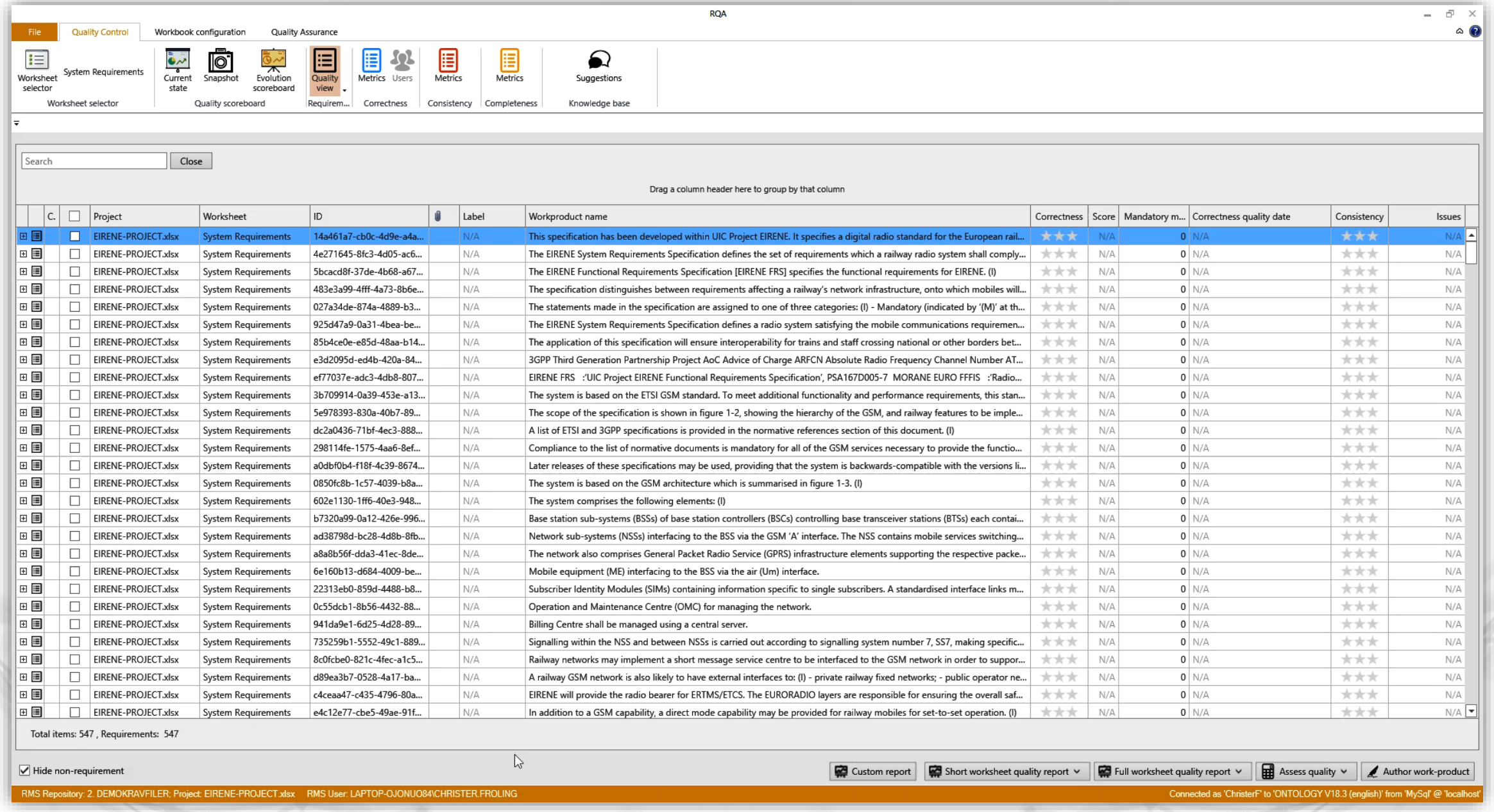
4.1.2 R2 - /ACCURACY/USEACTIVEVOICE

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.



Short demo of RQA



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.

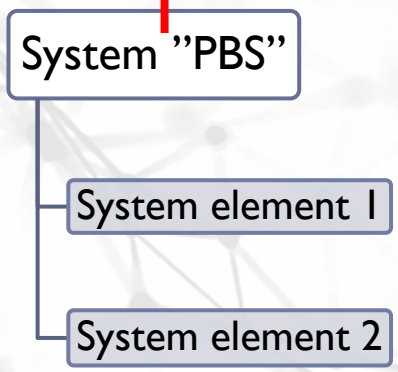
[SSS-001] The System SHALL detect critical errors within one minute from occurrence.

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.



SOLUTION:

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

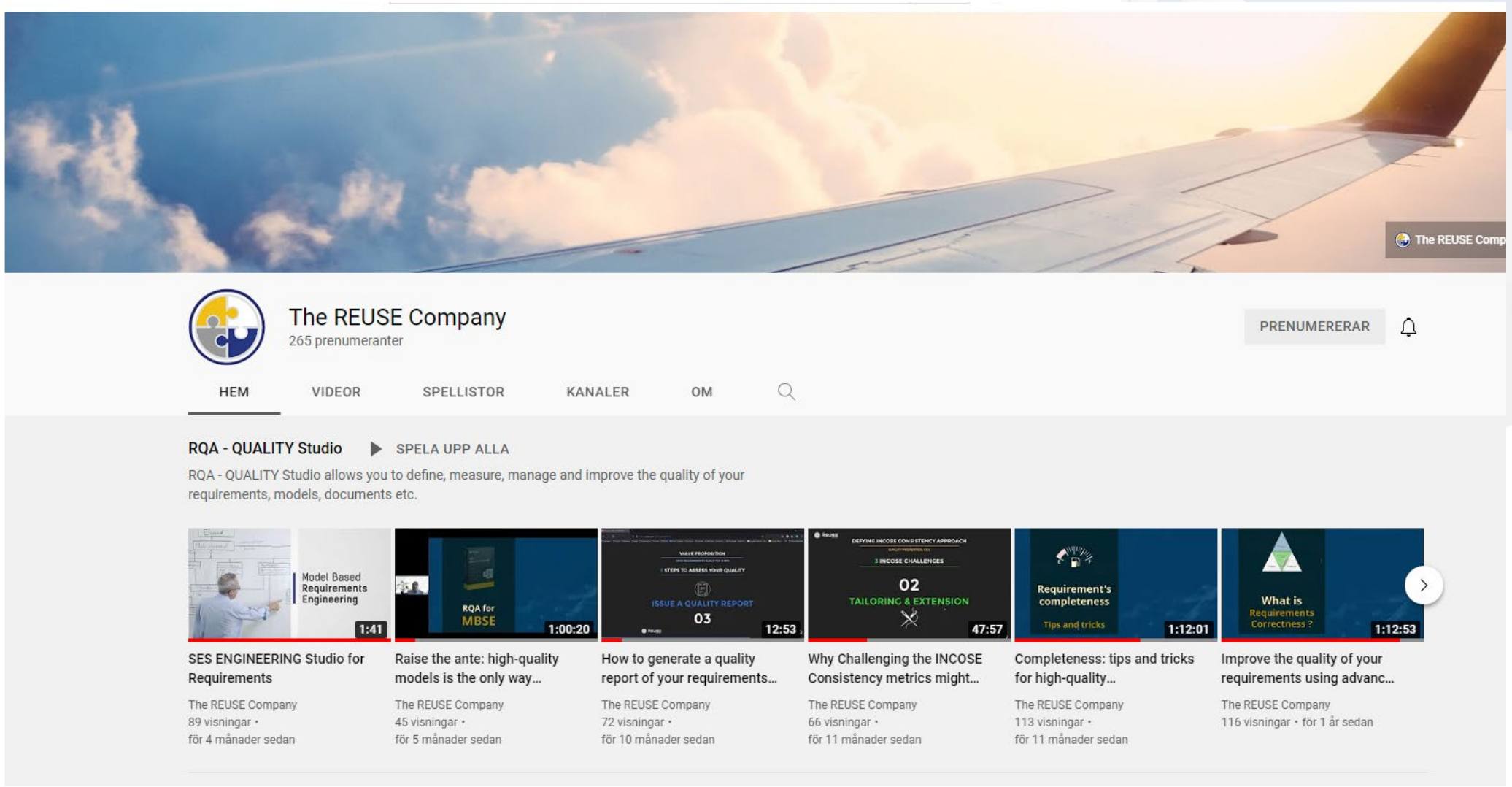
The End

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 in Youtube: https://www.youtube.com/user/TheREUSECompany

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