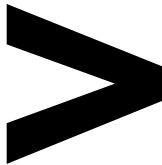
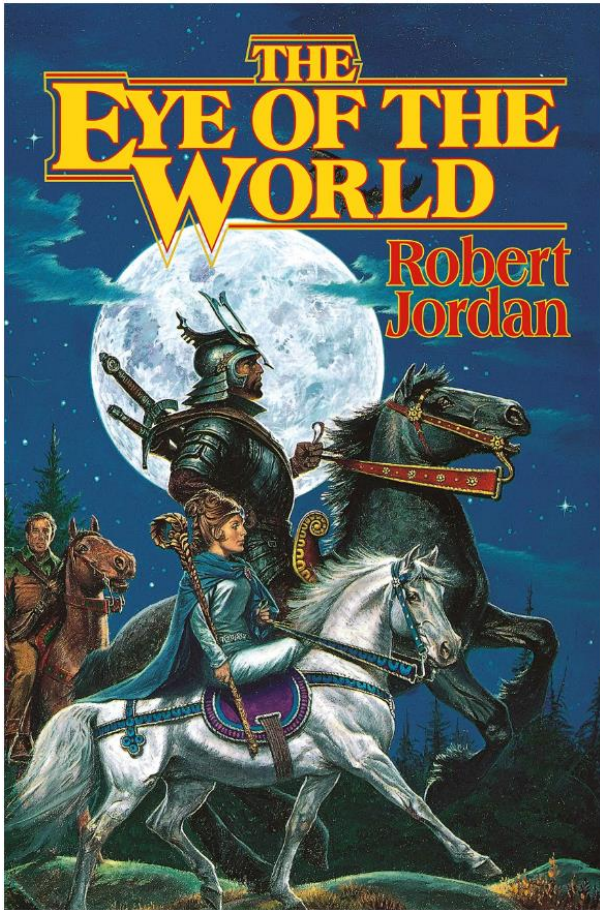


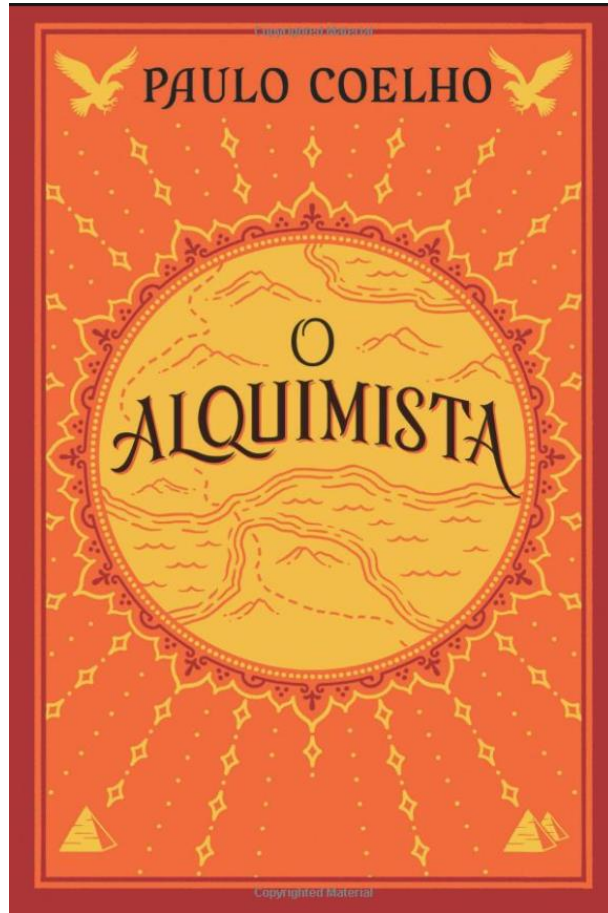
# To Translate is To Betray

The Critical Need for Authoritative Views

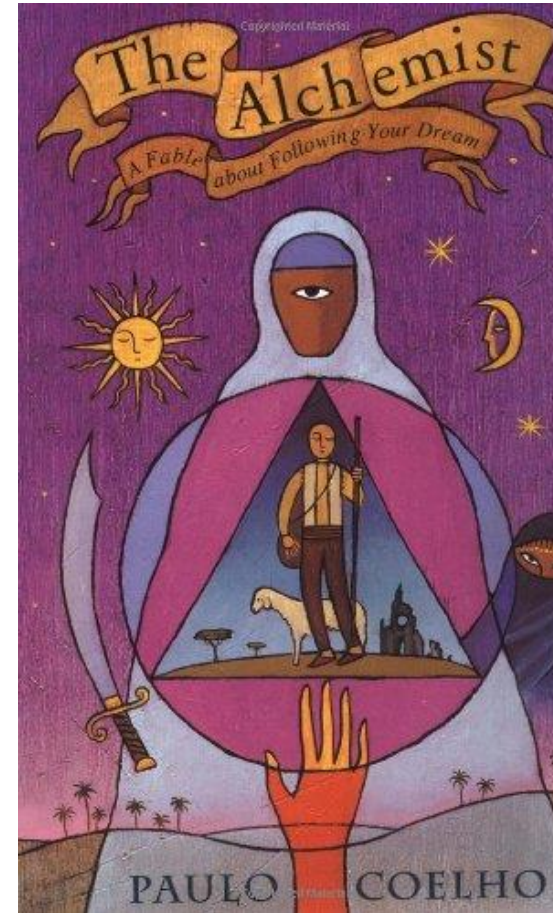






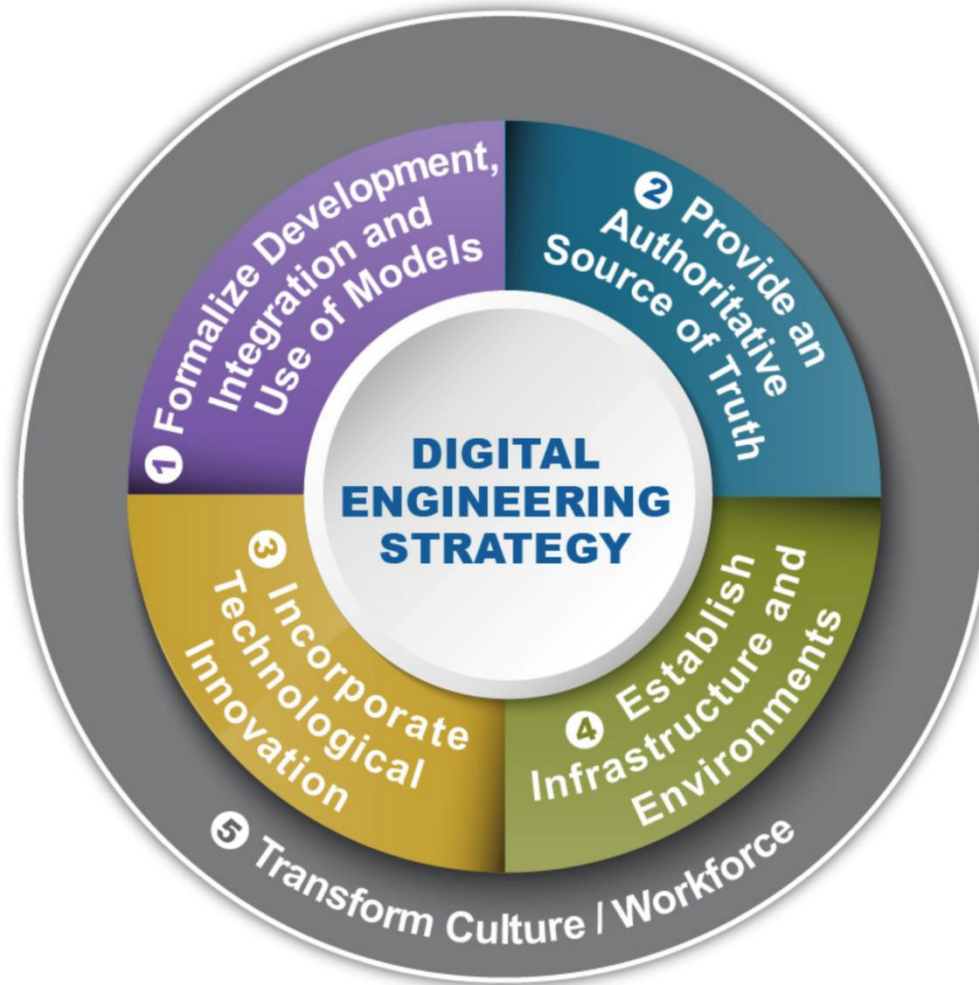


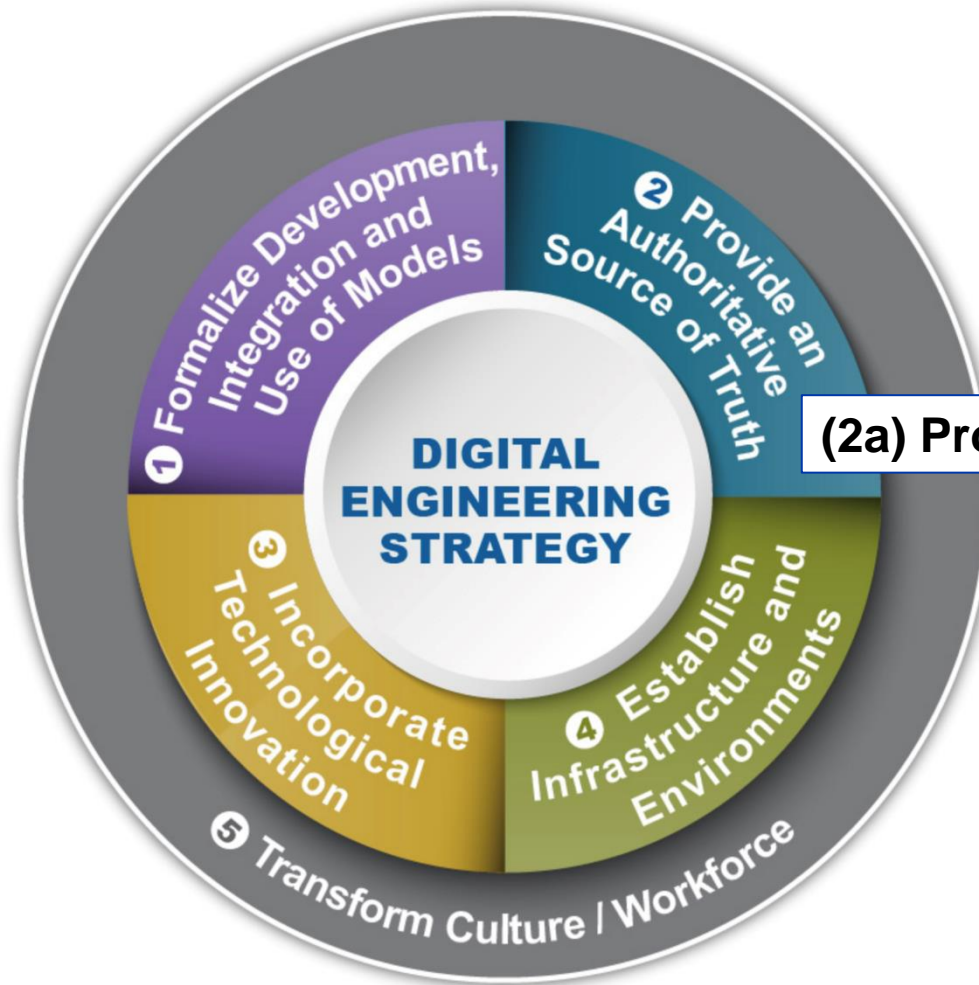
>



***Traduttore, traditore.***

# To translate is to betray.





(2a) Provide Authoritative Views



# J. Simmons, Ph.D.

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Digital Engineering Consultant, [TheJSimmons.com](https://TheJSimmons.com)

## Over 15 years in Digital/Systems Engineering

- Ph.D. in Space Systems Engineering from the Air Force Institute of Technology
- Modeling & Simulation automation/integration for Multi-Disciplinary Analysis & Optimization (MDAO)
- Implementing Digital Threads between MDAO and MBSE

## Supported all corners of the Aerospace Industry

- Government: DoD | Air Force | Navy | Army | NASA
- Contractors: Northrop Grumman | Lockheed Martin | Boeing | SAIC
- National Labs: Jet Propulsion Laboratory | Applied Physics Laboratory | Sandia National Laboratories







# Let's talk about consistency in our views

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# Let's talk about consistency in our views

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When will  
Jamie be back?

Two weeks from  
tomorrow...



# What is an “accurate” view?

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DOORS  
Requirements  
Database



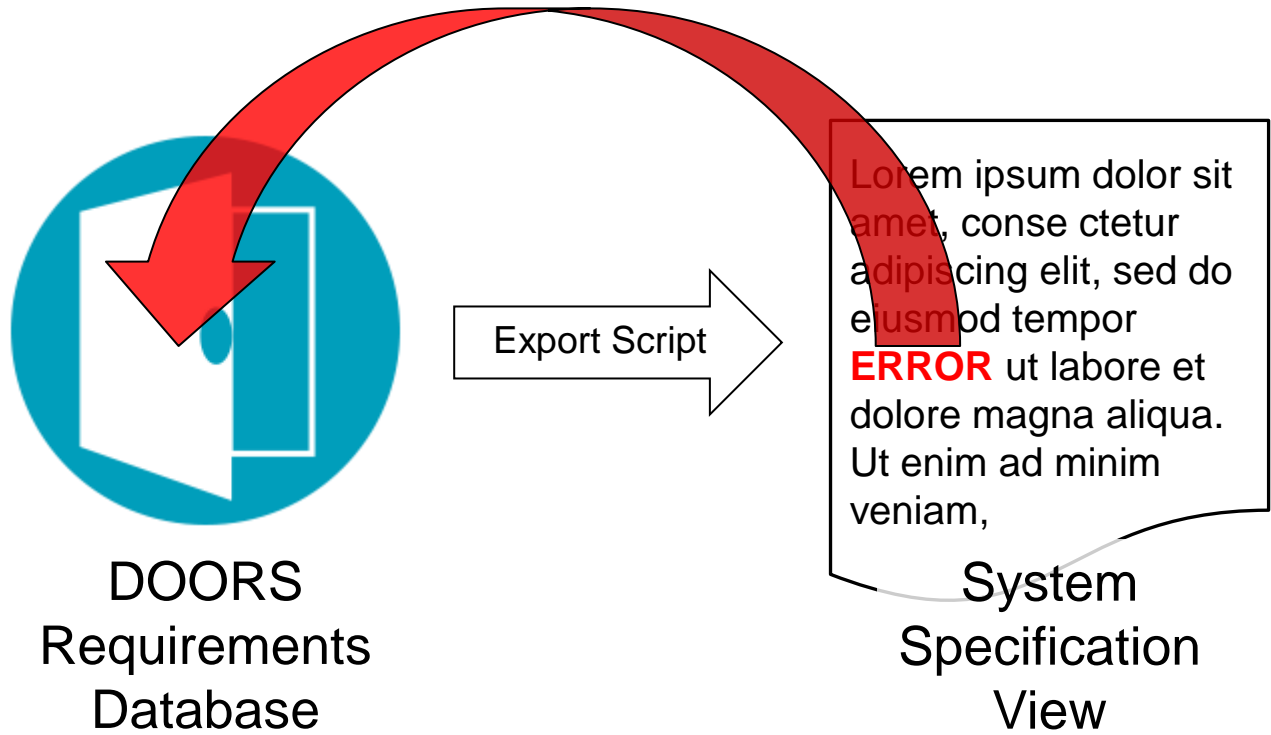
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dolore magna aliqua.  
Ut enim ad minim  
veniam,

System  
Specification  
View



# What is an “accurate” view?

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# What is an “accurate” view?

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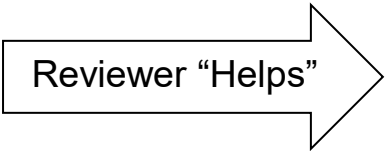


DOORS  
Requirements  
Database



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System  
Specification  
View

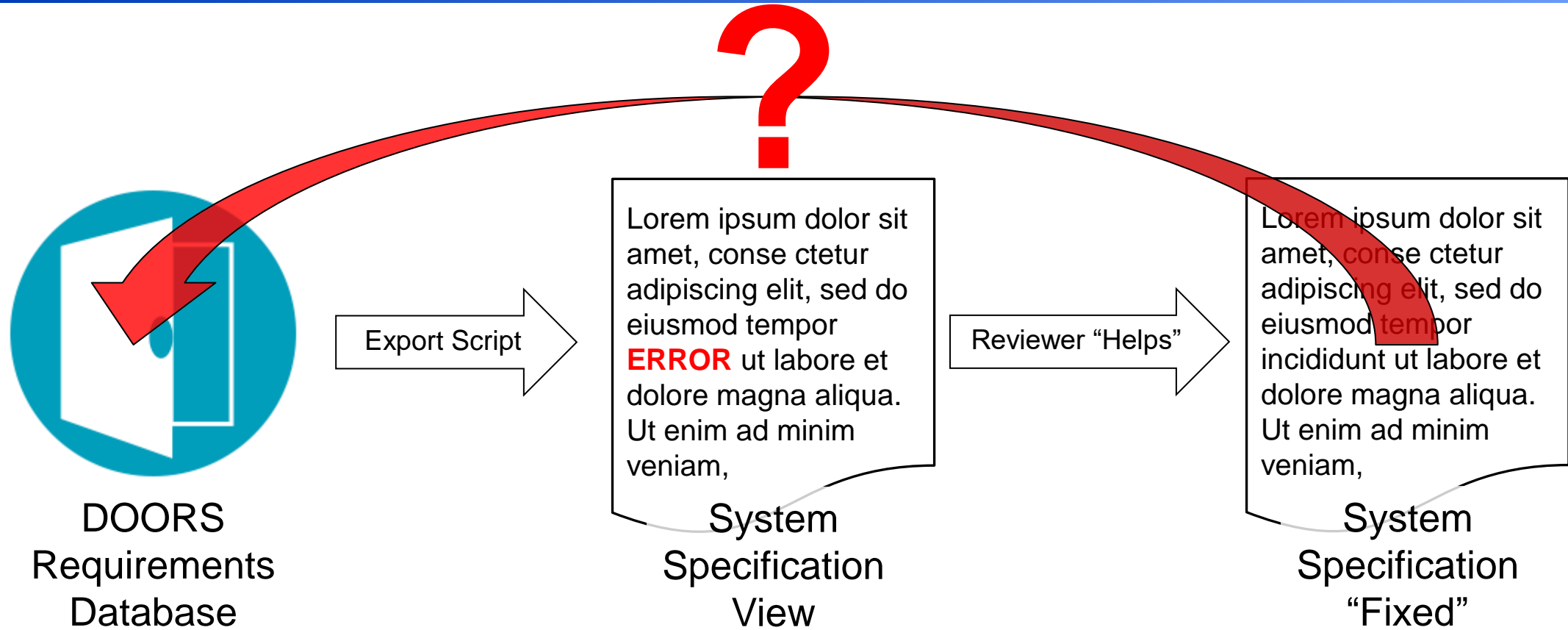


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System  
Specification  
“Fixed”

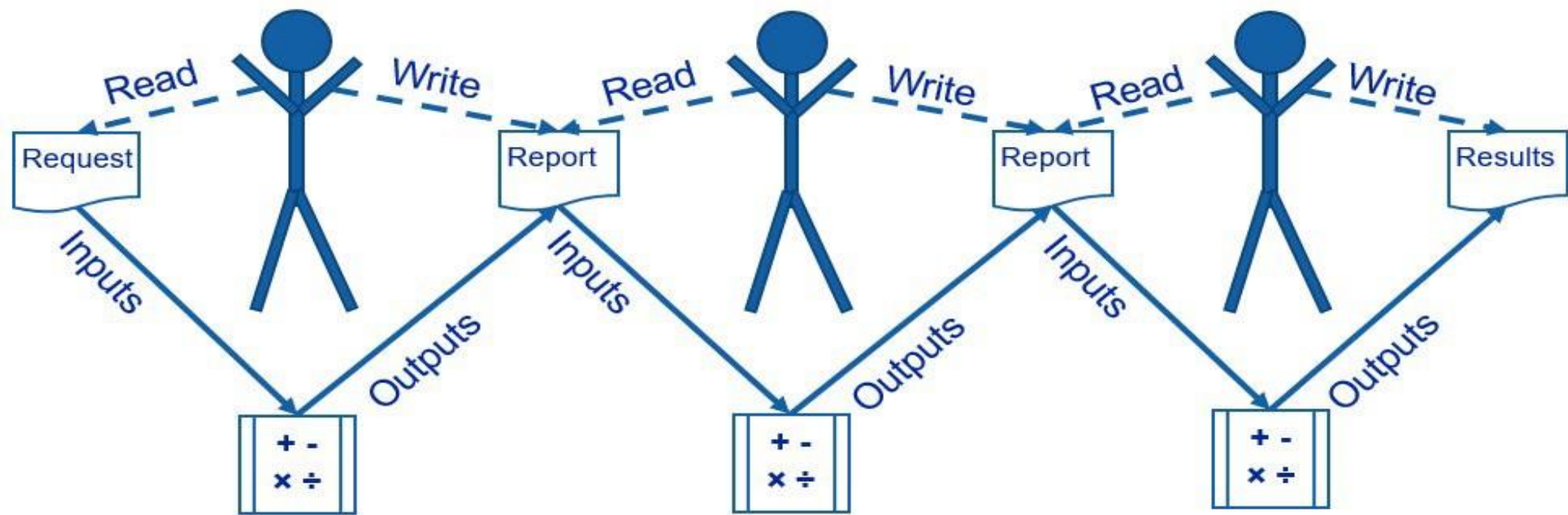
# What is an “accurate” view?

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# Timely views are delivered at the speed of development

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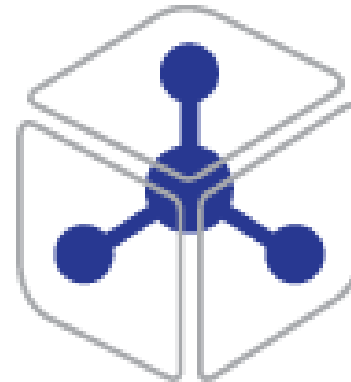
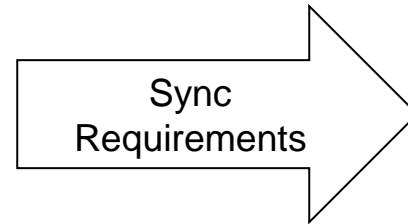








DOORS  
Requirements  
Database



Teamwork  
Cloud  
Repository

# Updated definition of a view

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Any consumer specific representation of  
data produced from an Authoritative  
Source of Truth (ASoT)

# Updated definition of a view

Global Product Data Interoperability Summit | 2022

Any consumer specific representation of  
data produced from an **Authoritative  
Source of Truth (ASoT)**



# Updated definition of a view

Global Product Data Interoperability Summit | 2022

Any **consumer** specific representation of  
data produced from an Authoritative  
Source of Truth (ASoT)

# Updated definition of a view

Global Product Data Interoperability Summit | 2022

Any consumer specific **representation** of  
data produced from an Authoritative  
Source of Truth (ASoT)

# Updated definition of a view

Global Product Data Interoperability Summit | 2022

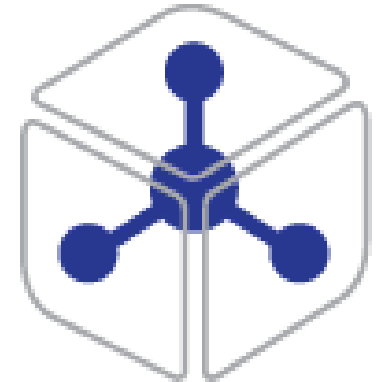
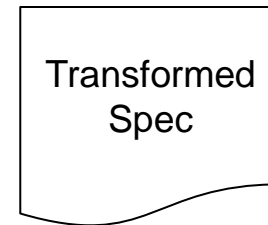
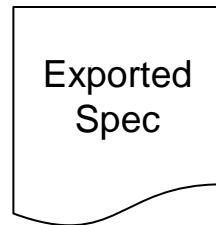
Any consumer specific representation of  
data **produced** from an Authoritative  
Source of Truth (ASoT)

# Pop Quiz: ETL Pipeline

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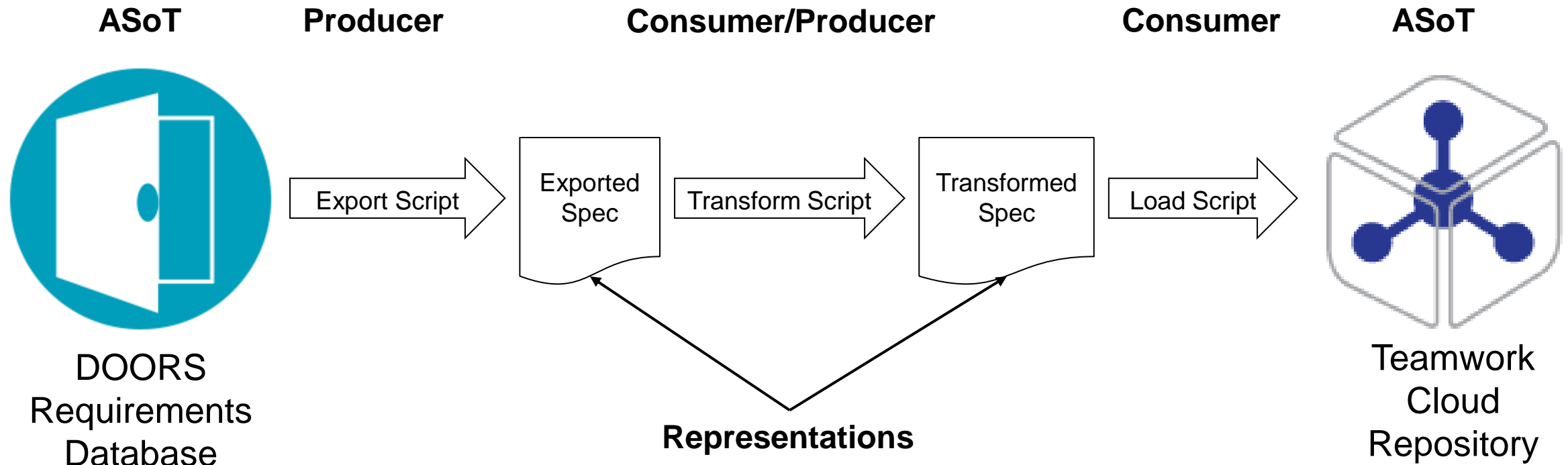
DOORS  
Requirements  
Database



Teamwork  
Cloud  
Repository

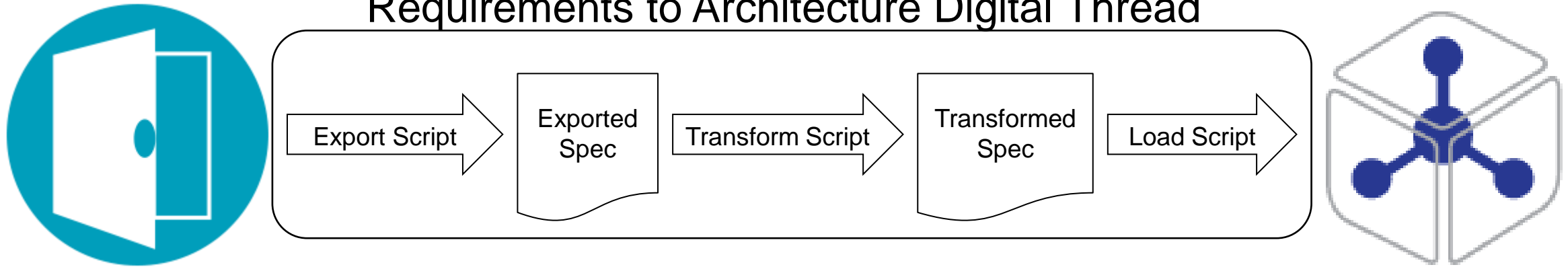
# Pop Quiz: ETL Pipeline

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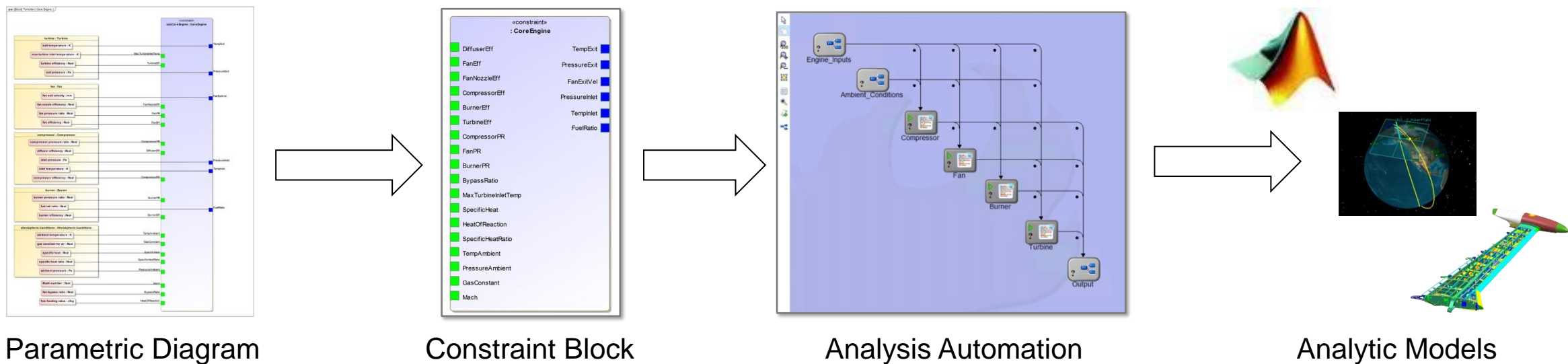


## Requirements to Architecture Digital Thread



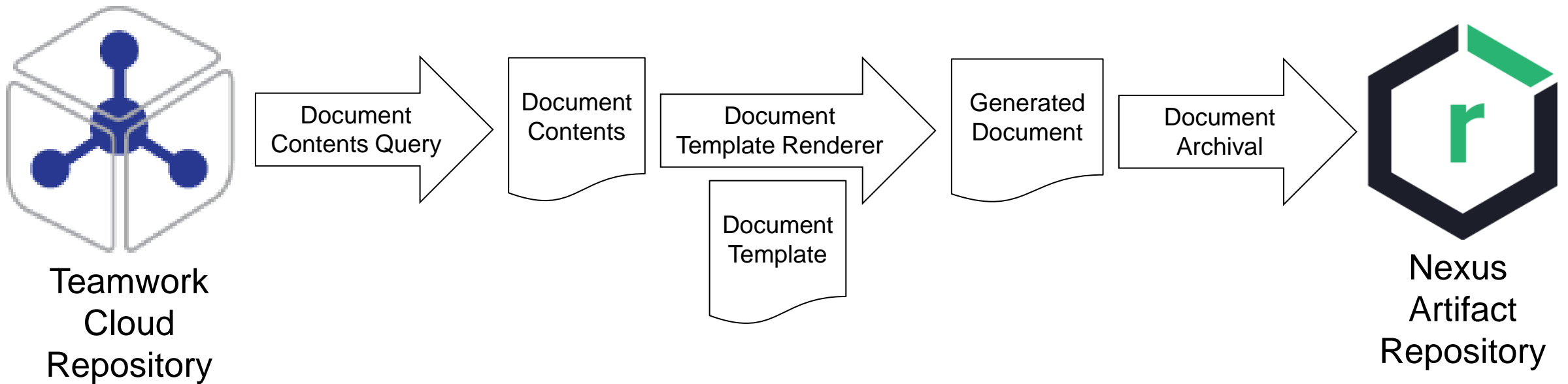
# When integrating analytic models with architecture models

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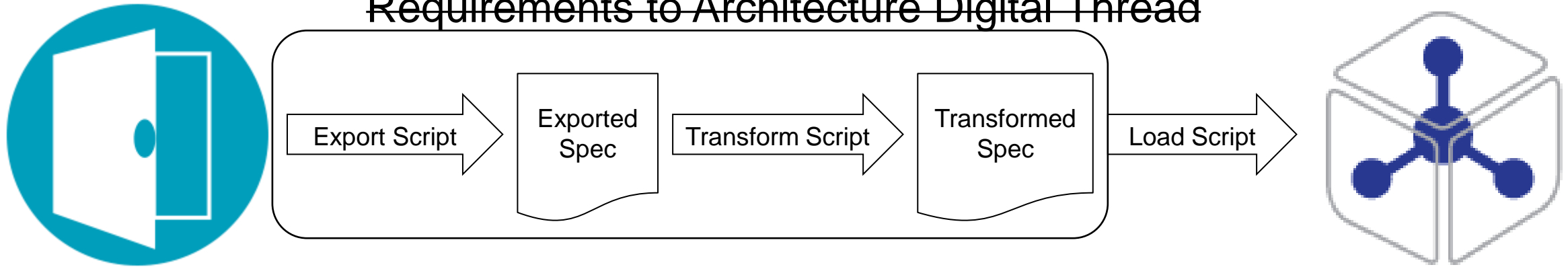


# When generating documents from models

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## Load Requirements into Architecture View ~~Requirements to Architecture Digital Thread~~



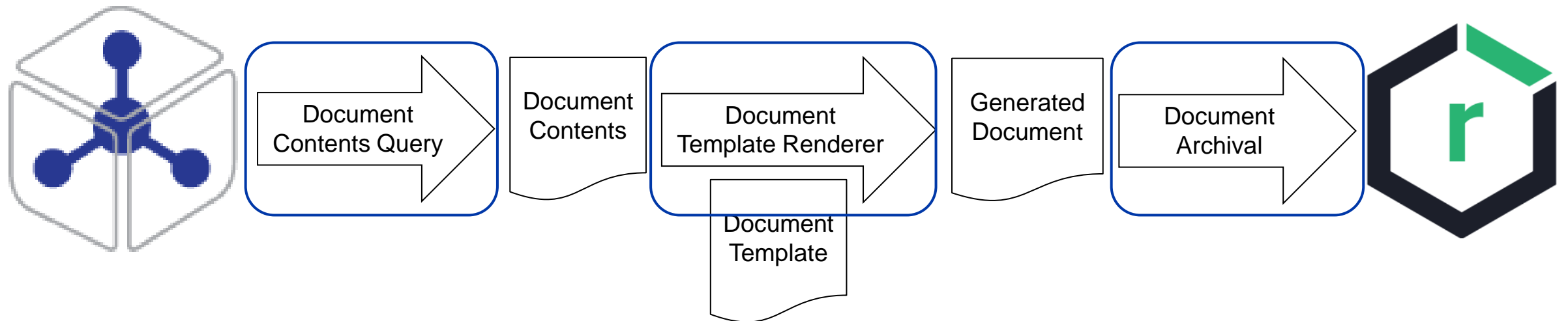
# Authoritative views/digital threads have been verified and validated

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Produced Manually	Automatically Generated
Human-in-the-loop	Software execution
Introduces errors during process execution	Repeats identical process each time
<i>Must verify and validate each view that is produced as it is produced</i>	<i>Only need to verify software when context or code is changed</i>

# Repetitive, detail oriented tasks are seldom the strong point for humans

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# We are being encouraged to leverage automation

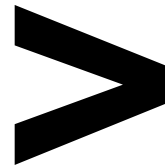
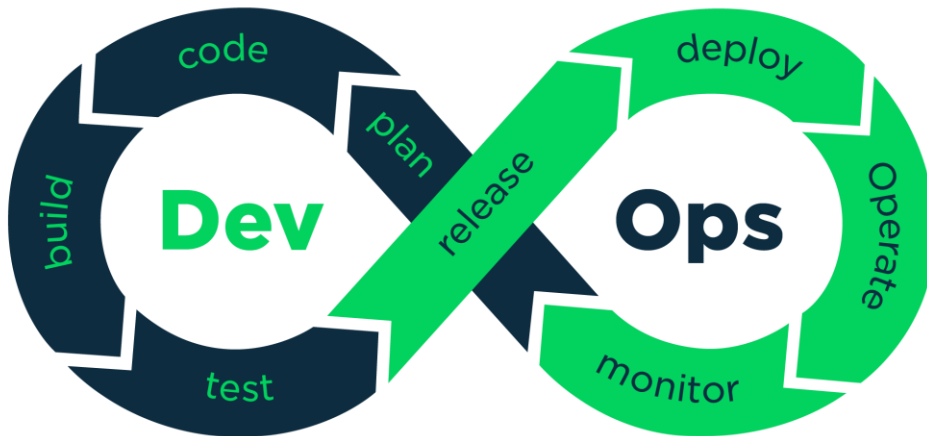
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“Absent required human judgment or critical thinking, activities we can turn into computerized checklists may be automated.”

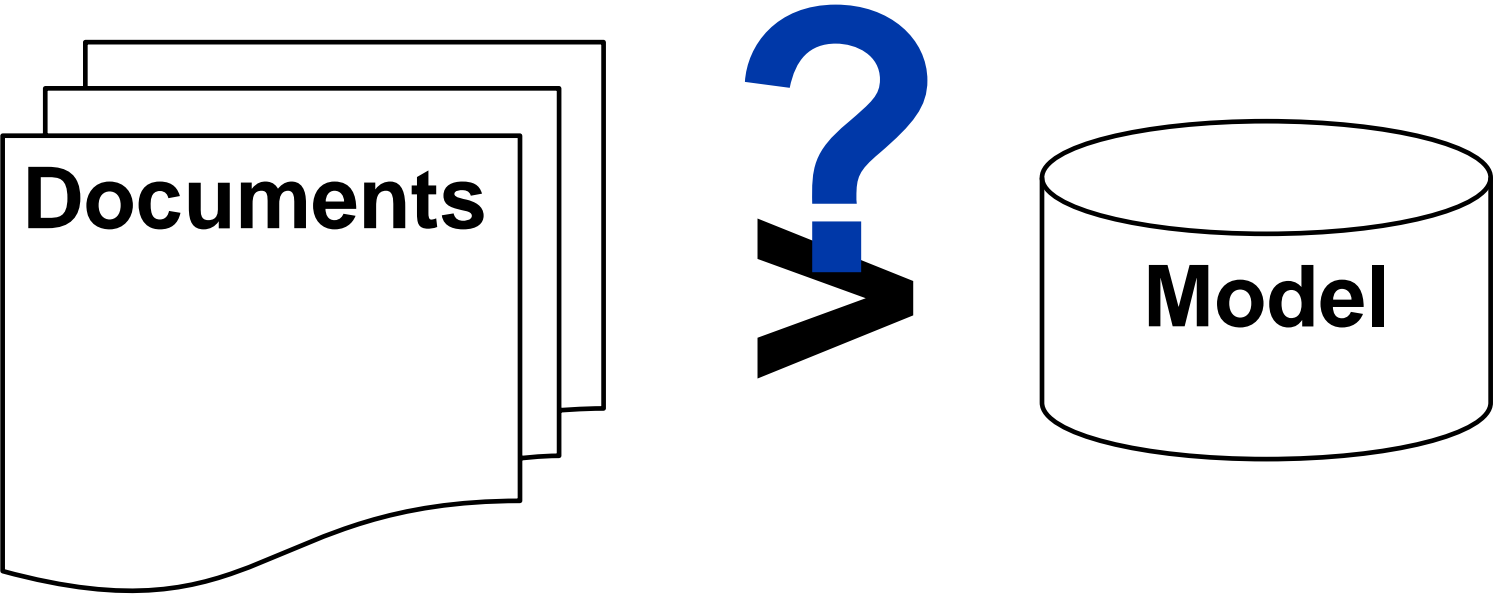
Dr. Will Roper, *Bending the Spoon*

# Verification and validation for code is more efficient than for documents

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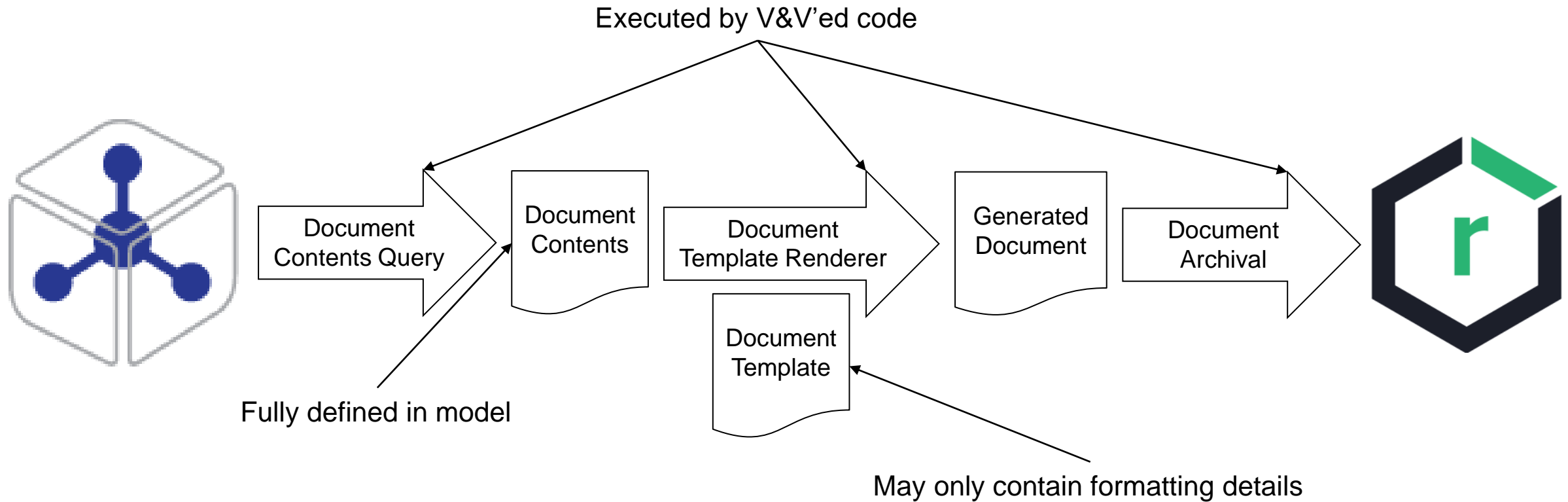


Lorem Ipsum	
<p><i>"Neque porro quisquam est qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit..."</i></p> <p>"There is no one who loves pain itself, who seeks after it and wants to have it, simply because it is pain..."</p>	<p>Editor: 2 minutes ago Formatted: Left: 0.5", Right: 0.5", Top: 0.5", Bottom: 0.5"</p>
<p>What is Lorem Ipsum?</p> <p> Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised-popularized in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including-that include versions of Lorem Ipsum.</p>	<p>Editor Formatted: Font: Italic</p> <p>Editor Formatted: Font: (Default) + Body (Calibri), 12 pt</p> <p>Editor Formatted: Font: (Default) + Body (Calibri), 12 pt</p> <p>Editor Formatted: Font: (Default) + Body (Calibri), 12 pt</p>
<p>Why do we use it?</p> <p>It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).</p>	<p>Editor Formatted: Font: (Default) + Body (Calibri), 12 pt</p>



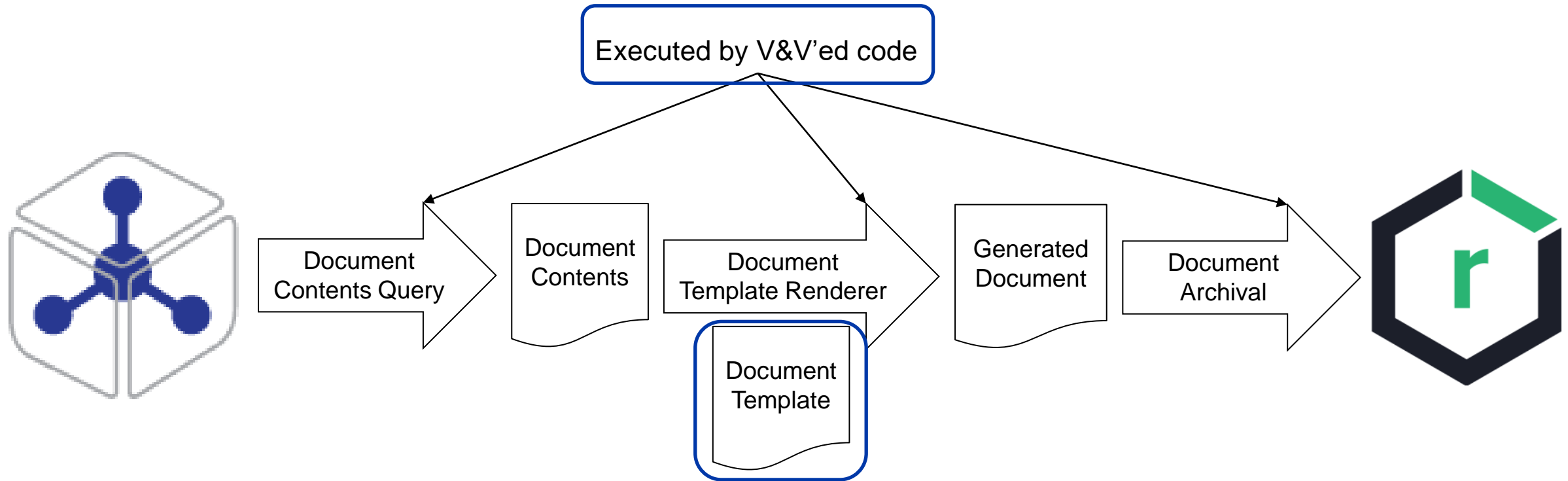
# Views = Model + Code

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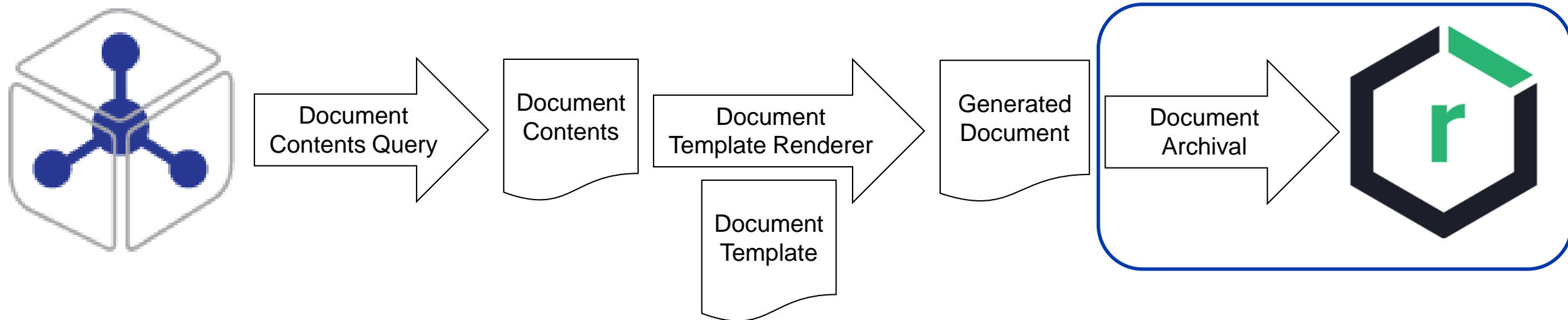
# Configuration managing views becomes a matter of managing software

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# Continuing to follow the lessons of software...

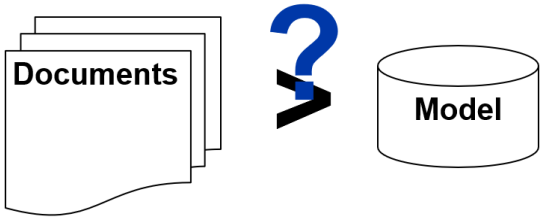
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# In Summary

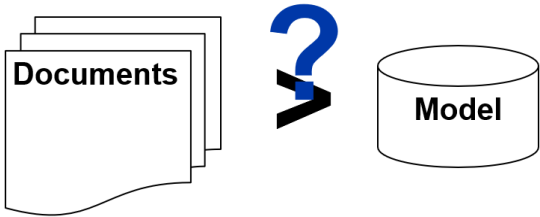
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# In Summary

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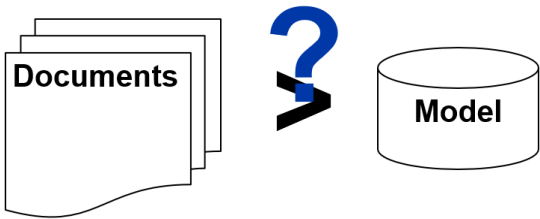
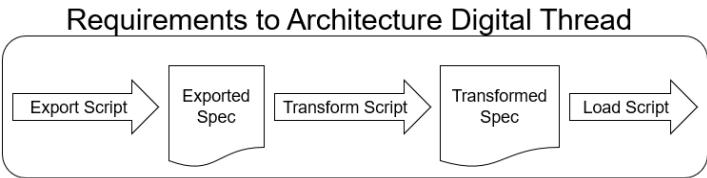
Produced Manually	Automatically Generated
Human-in-the-loop	Software execution
Introduces errors during process execution	Repeats identical process each time
<i>Must verify and validate each view that is produced as it is produced</i>	<i>Only need to verify software when context or code is changed</i>



# In Summary

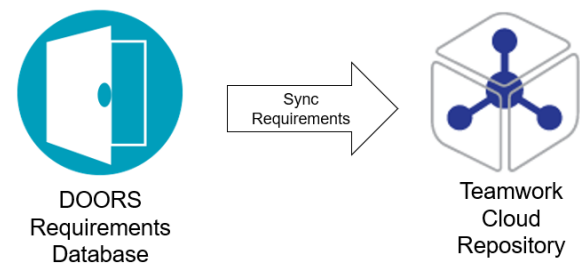
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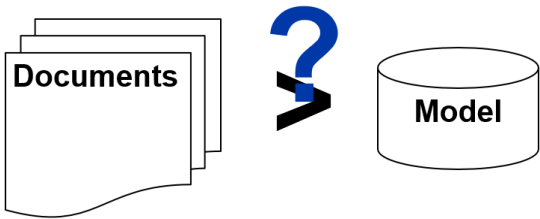
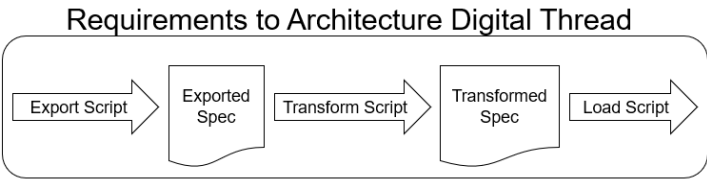


# In Summary

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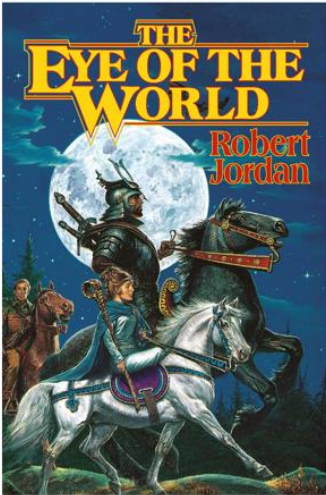


Produced Manually	Automatically Generated
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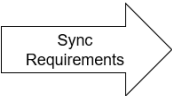


# In Summary

Global Product Data Interoperability Summit | 2022



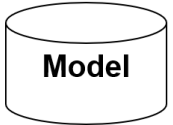
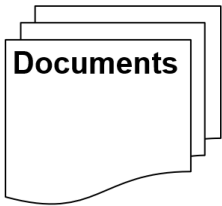
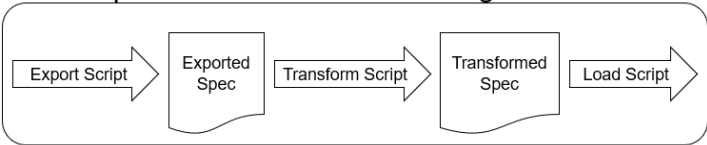
DOORS  
Requirements  
Database



Teamwork  
Cloud  
Repository

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## Requirements to Architecture Digital Thread



# What do you think?