

DV 13:

Navigating in an Information Graph

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...with Capish you can.

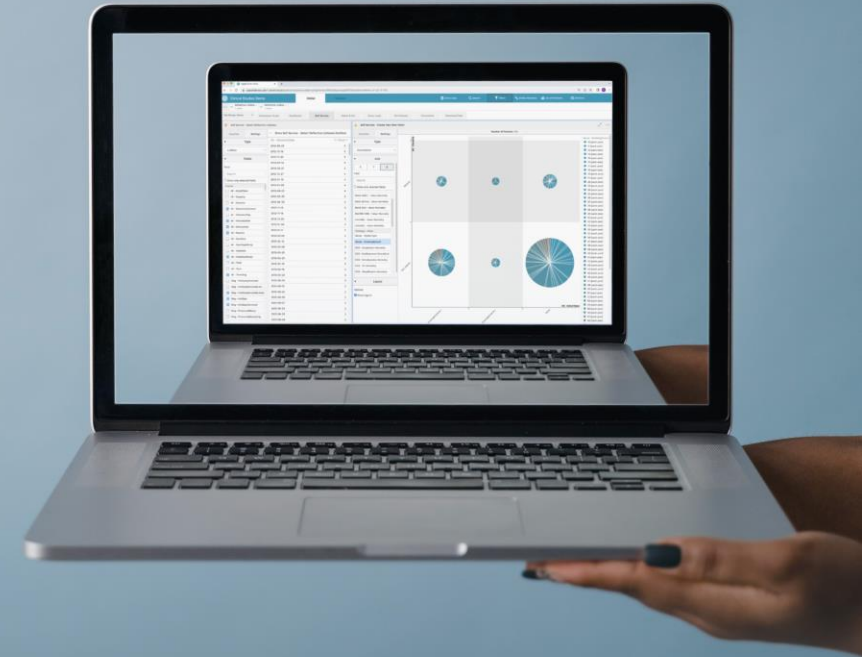
Content

Graph database

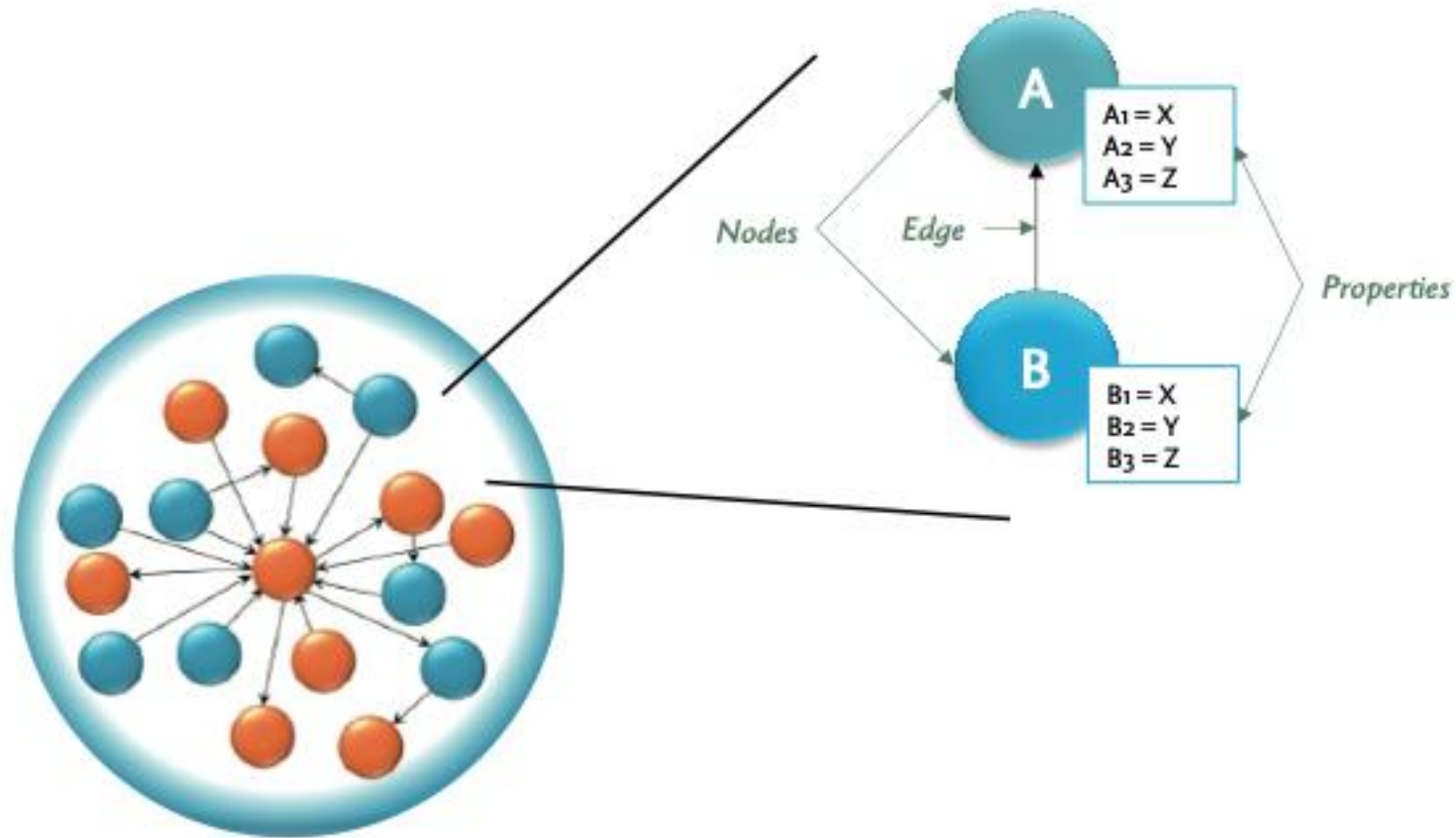
Knowledge Graph / InfoGraph

Examples

Summary



Graph Database



Relational Databases		Graph Databases
<i>Tables with columns and rows</i>	Format & Model	<i>Graphs with nodes and edges</i>
<i>Implicit relations using table keys</i>		<i>Explicit relations using edges</i>
<i>Rigid data model (each row has the same columns)</i>		<i>Flexible data model (each node can contain different properties)</i>
<i>Complex joins between tables required</i>		<i>No joins are required</i>



Graph Database

Relationships

Simple and expressive data model

Flexible

Examples

Connection between people –
Social graph

Reasoning and motivation –
Intent Graph

Purchasing - Consumption graph

Mobile data – Mobile graph

Relational Databases		Graph Databases
<i>Tables with columns and rows</i>	Format & Model	<i>Graphs with nodes and edges</i>
<i>Implicit relations using table keys</i>		<i>Explicit relations using edges</i>
<i>Rigid data model (each row has the same columns)</i>		<i>Flexible data model (each node can contain different properties)</i>
<i>Complex joins between tables required</i>		<i>No joins are required</i>
<i>Predefined and flat data (e.g., financial data)</i>	Use Cases	<i>Varying and interconnected data (e.g., medical data)</i>
<i>Data entry (with transactions)</i>		<i>Integration and harmonization</i>
<i>Predefined analysis</i>		<i>Data science (exploration)</i>

Knowledge Graph

Representation of entities
and their relationships.

Ontologies for both humans
and machines.

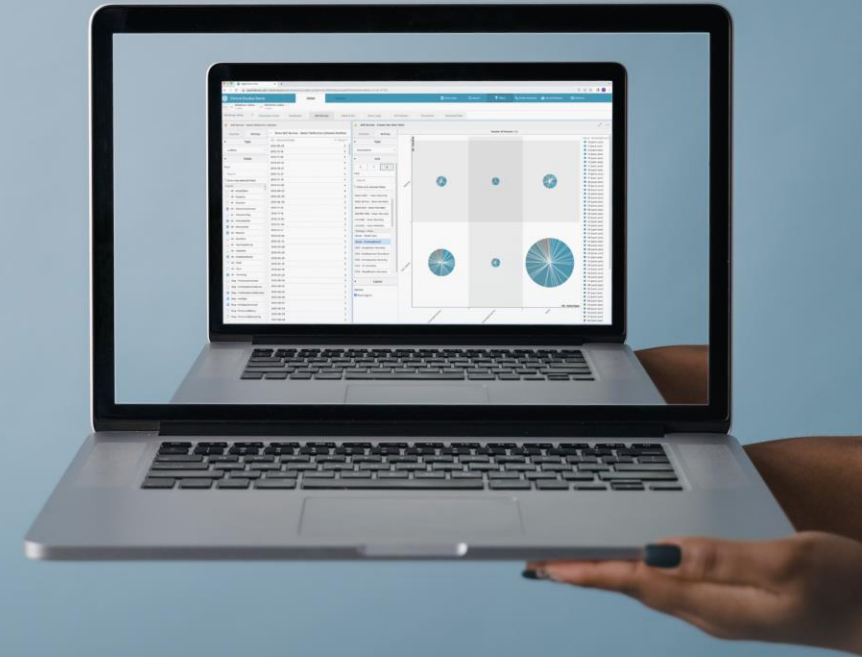


Ontology

Formal representation of knowledge domain

Controlled vocabulary

Concepts



Example

Concept: Adverse Event
Domain: 615.580724—dc23
Holon: Adverse Event

Description
Information on an Adverse Event experienced
by a Study Patient

Adverse
Event

Adverse Event
Seriousness
Severity
Start Date
Stop Date

Concept: English
Domain: 423—dc23
Field: Severity

Description
Severity/Intensity of an event

Synonyms
AESEV

Data Type
String

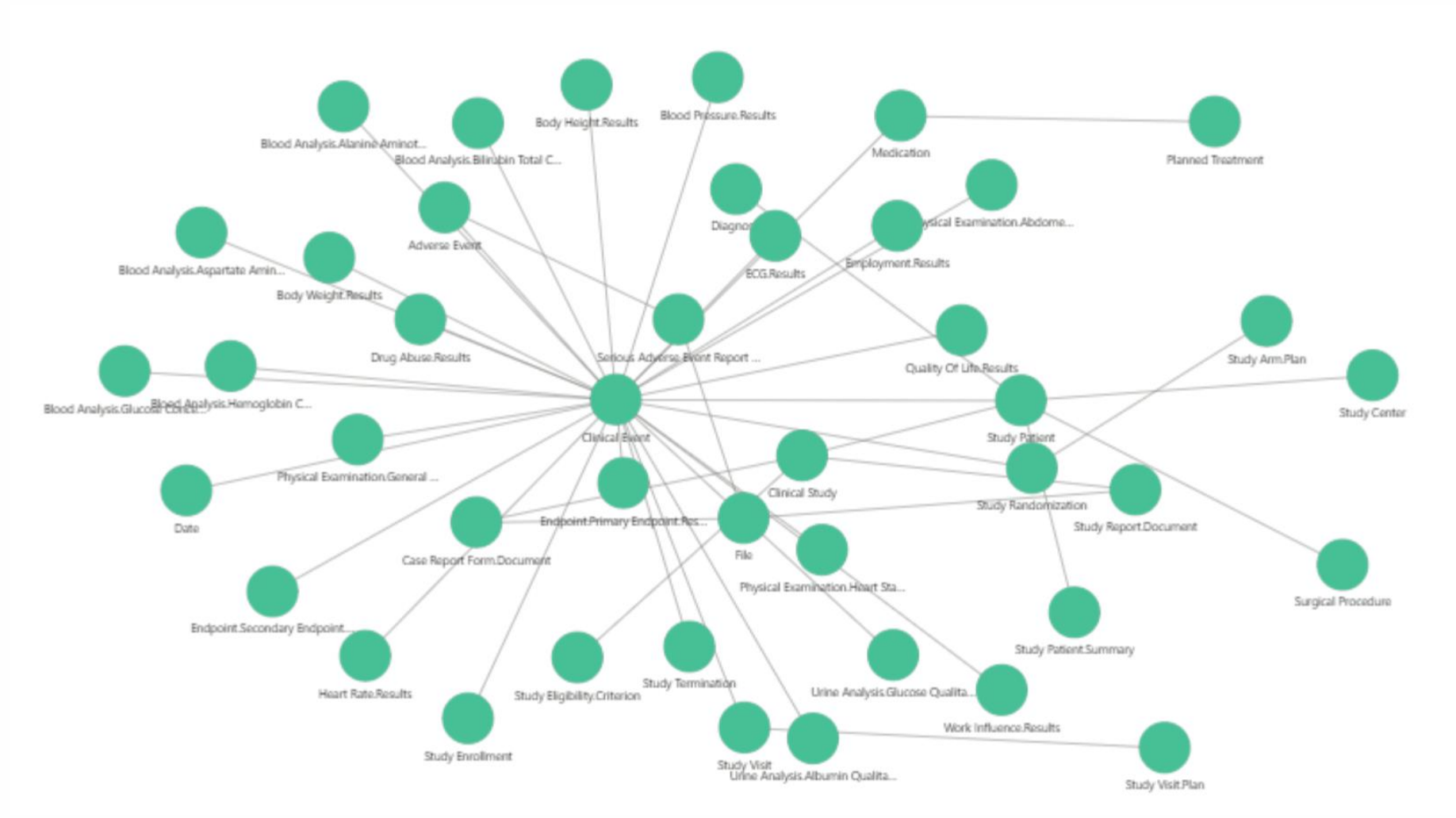
Content Scale
Ordinal

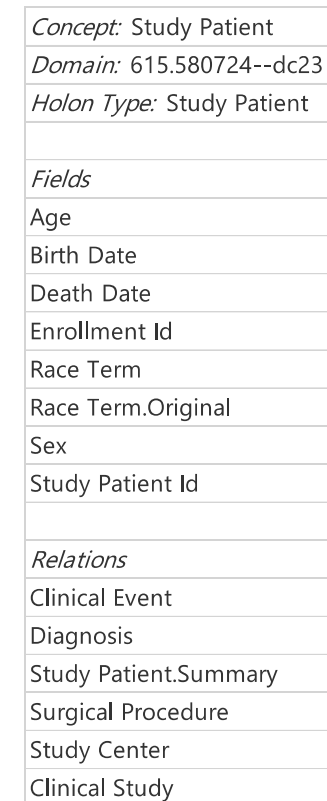
Content List
Mild, Moderate, Severe

Content List Direction
Worse

615.580724 Experimental Research
615.58 Drug Therapy
615.5 Therapeutics
615 Pharmacology and Therapeutics
61 Medicine & health
6 Technology

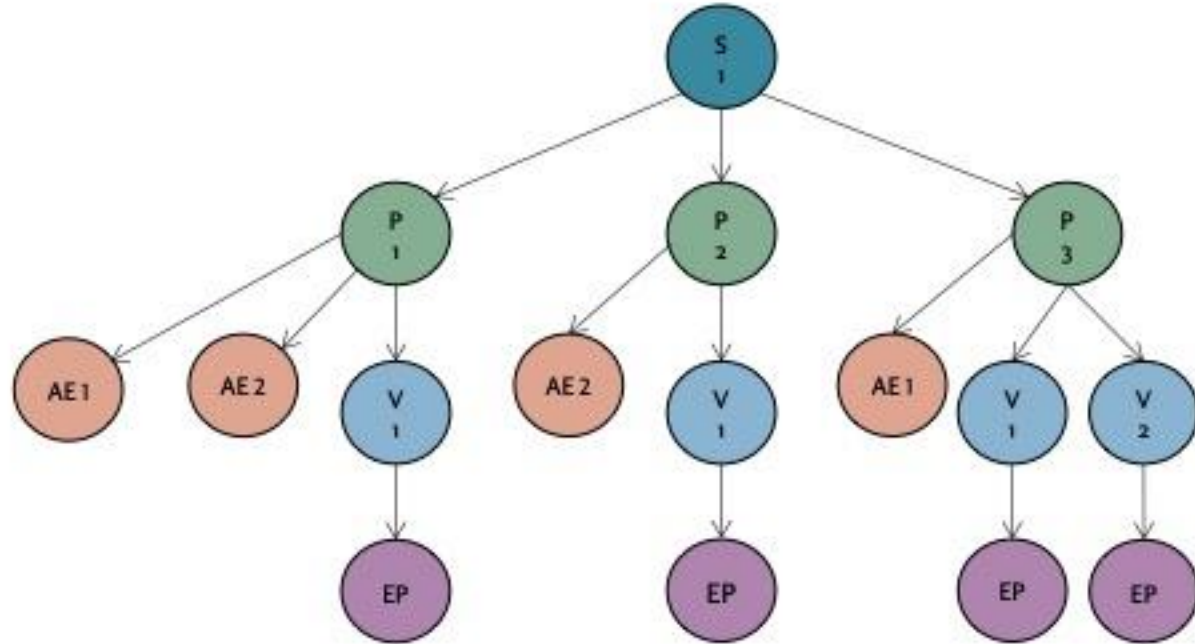
InfoGraph



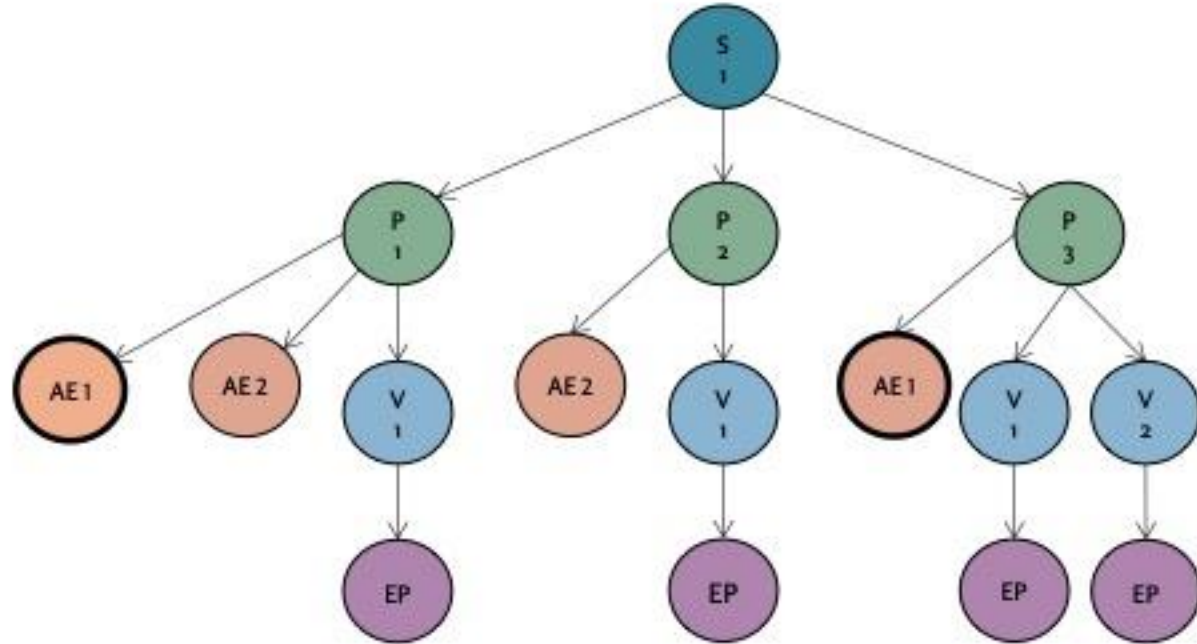


Capish

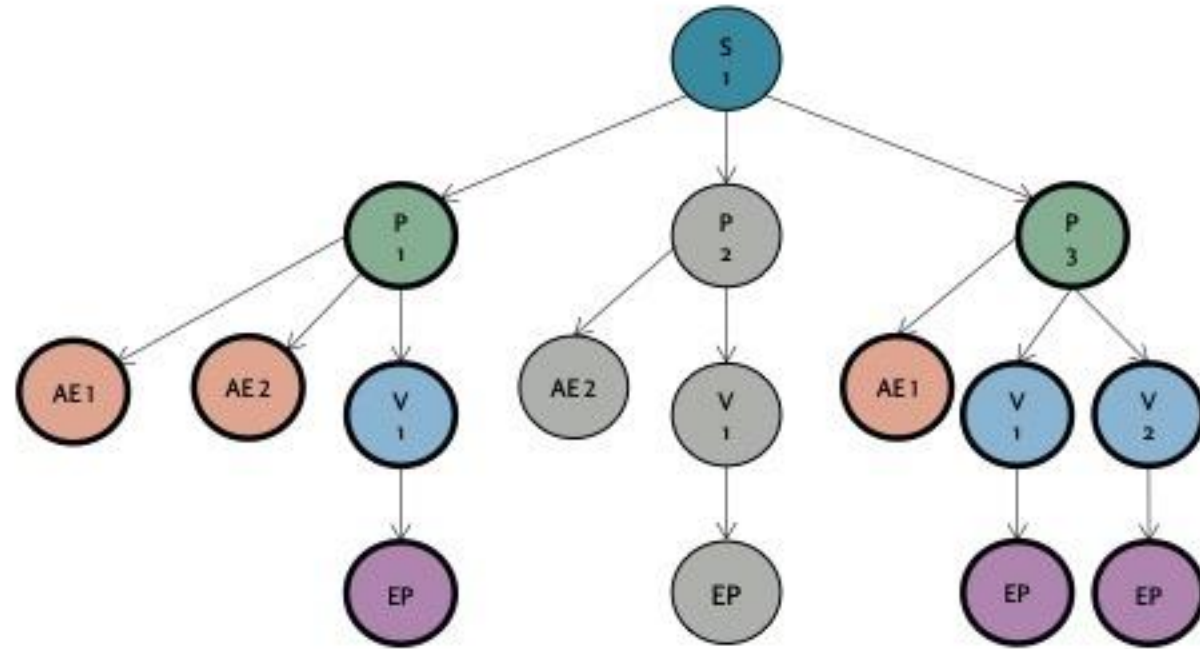
Example



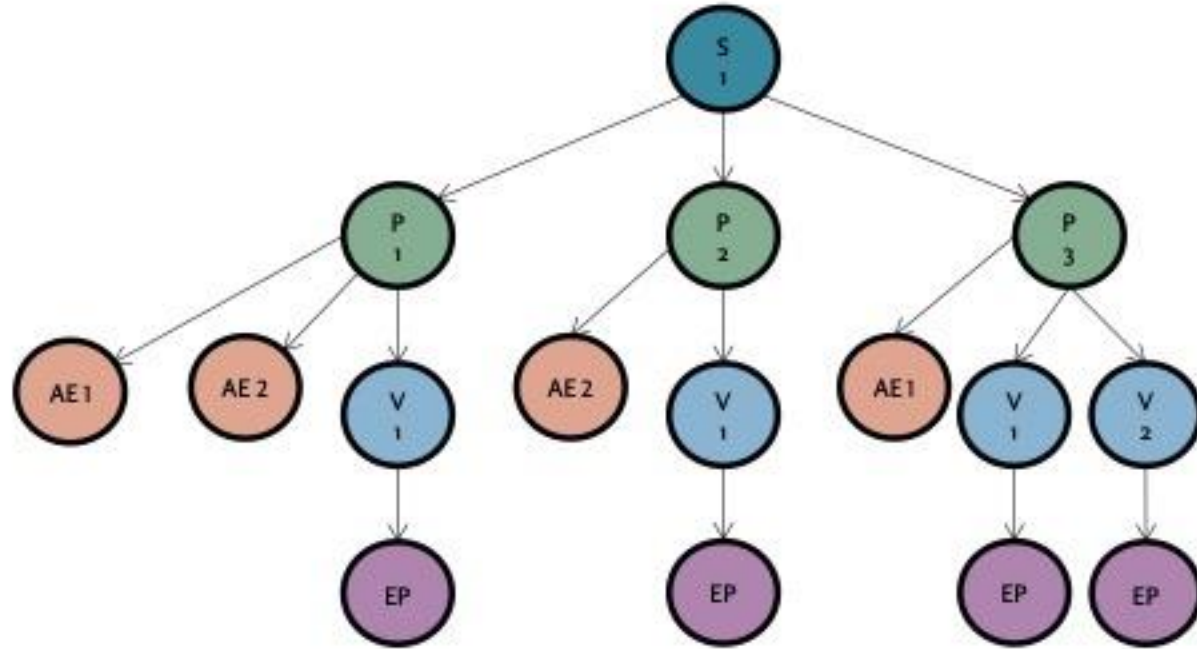
Example: AE 1



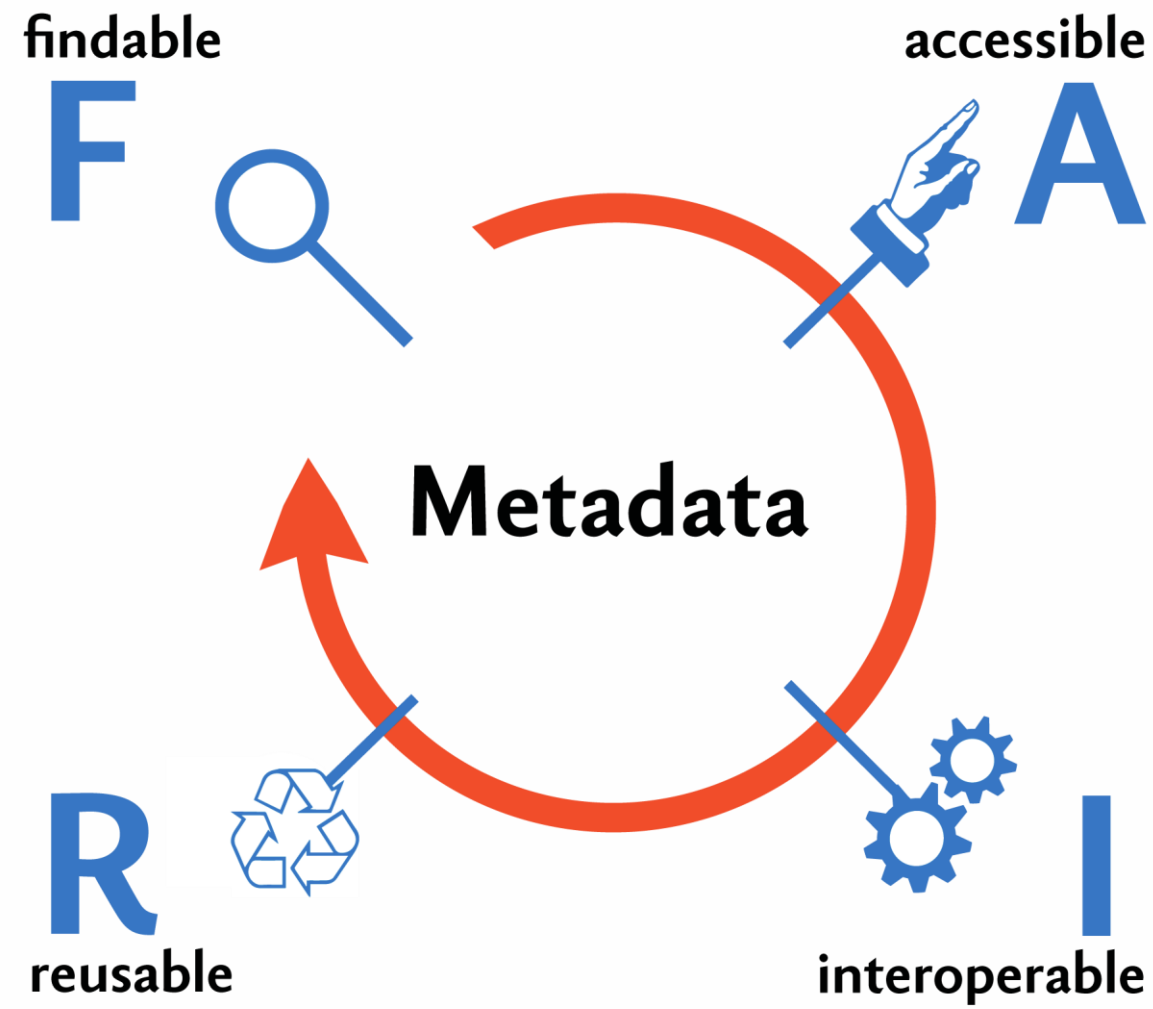
Example: Patients with AE 1



Example: Studies with AE 1



LIVE EXAMPLES

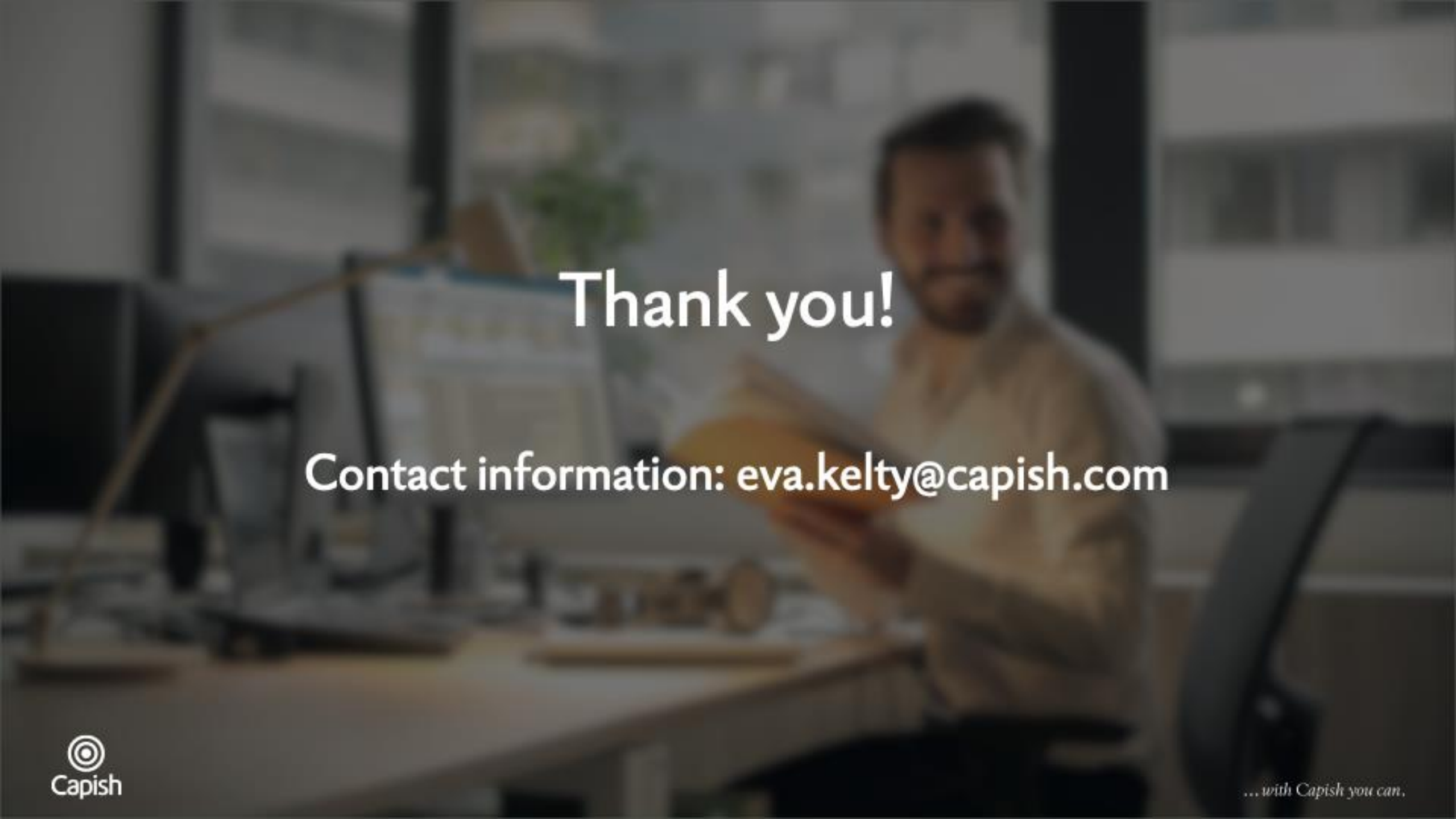


FOUL

Frustrating
Obfuscated
Unmanaged
Lost

FAIR

Findable
Accessible
Interoperable
Reusable



Thank you!

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