The Potential for Synergy between Information and Software Engineering Visualization

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Purpose

- Attempt to define overlap between SEViz and InfoViz
- Look for where opportunities lie for marriage of ideas

Two Decades of SE Visualization

- Development of visual notations and techniques for defining and communicating the understanding of a problem, its requirements and possible designs
- The demand for shared conventions has ultimately led to the UML

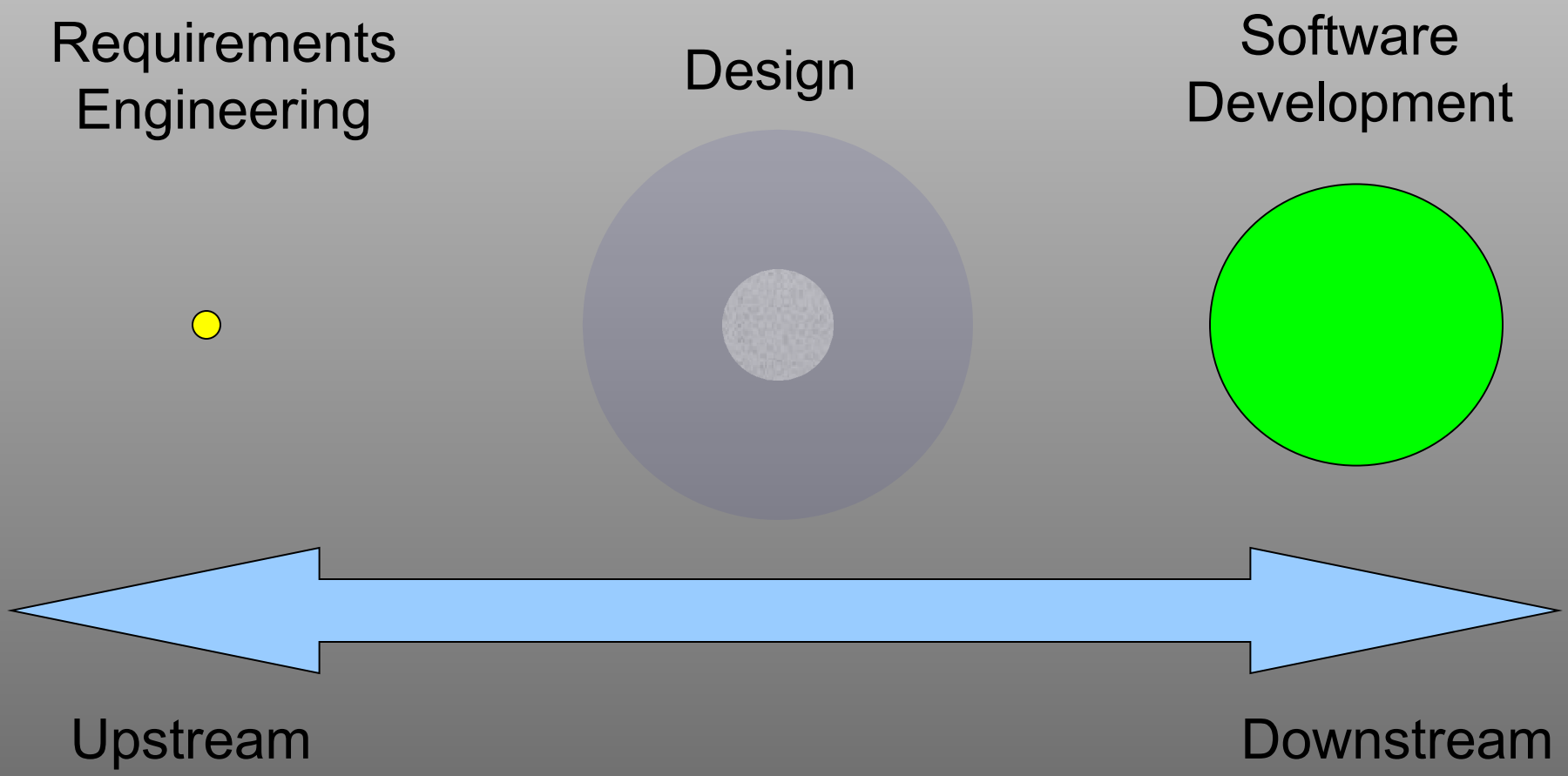
Goals of SEViz

- Visualization **as** Artifact
  - Clearly fix and communicate structures to facilitate development.
- Visualization **as** Activity
  - Reveal and understand hidden structures

Requirements of SEViz

- Visualization **of** Artifacts
  - Communicate structures.
- Visualization **of** Activity
  - Reveal states and dynamics of lifecycle processes.

Uses of Visualization



RE - Can We Go from This?

From page 157 of [1] :
Req #: 75
Req Type: 9 (functional requirement)
Event/Use Case #: 6
Description: The product shall issue
fails to transmit readings.
Rationale: Failure to transmit reading
weather station is faulty and needs ma
used to predict freezing roads may be
Source: Road Engineers
Fit Criterion: For each weather statio
communicate to the user when the rec
reading per hour is not within the man
the expected number of readings per
Customer Satisfaction: 3
Customer Dissatisfaction: 5
Dependencies: None
Conflicts: None
Supporting Materials: Specification
History: Raised by GBS, 28 July 99

From page 159 of [1]:
Req #: 110
Req Type: 11 (non-functional requirement - usability)
Event/Use Case #: 6, 7, 8, 9, 10
Descriptio
use.
Rationale:
training cla
Source: S
Fit Criteric
successful
encounteri
Customer
Customer
Dependen
Conflicts:
Supportin

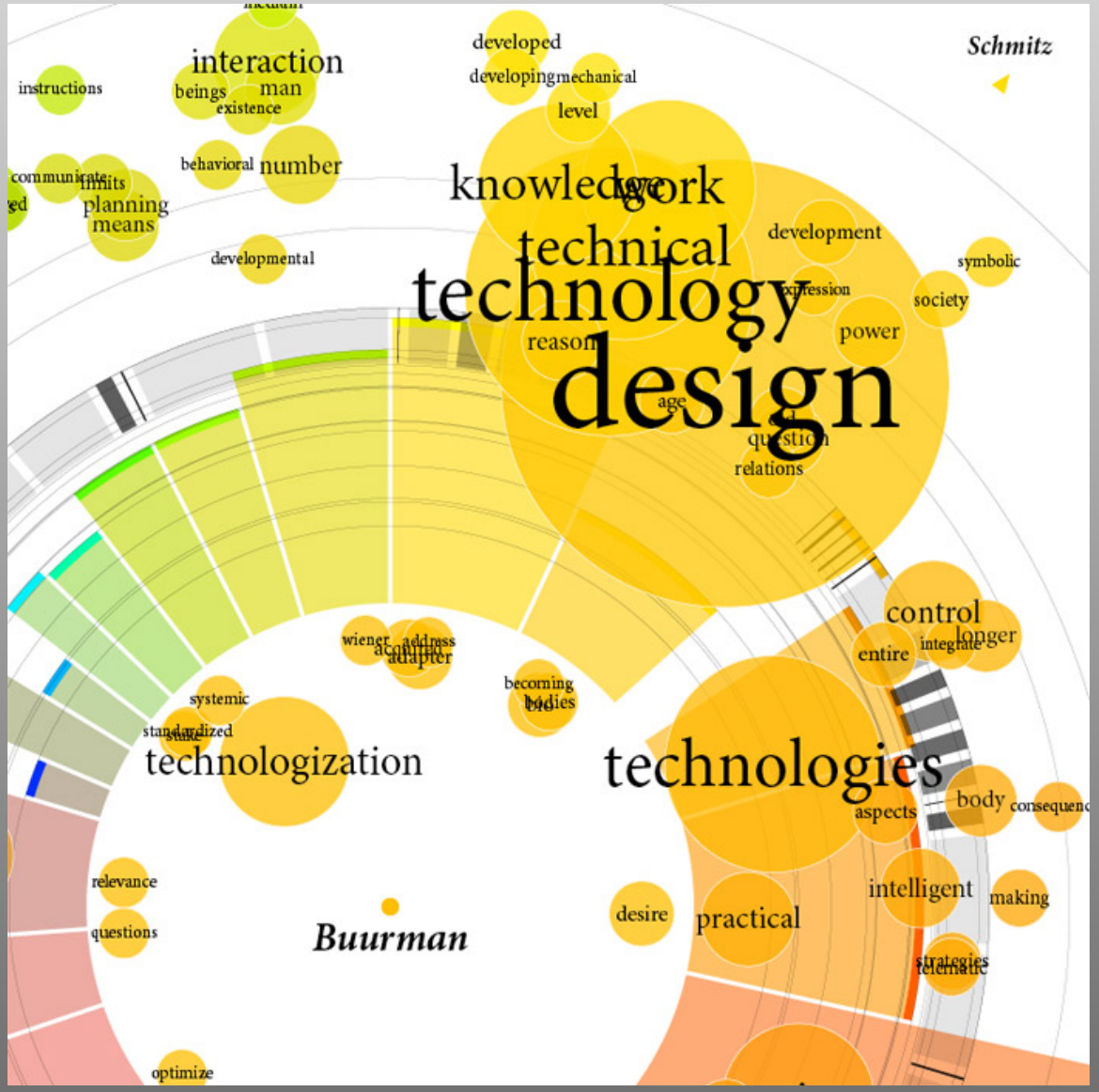
History: R

From website of [1] :
Req #: 74
Req Type: 9 (functional requirement)
Event/Use Case #: 7, 9
Description: The product shall record all the roads that have been treated.
Rationale: To be able to schedule untreated roads and highlight potential danger.
Source: Arnold Snow, Chief Engineer
Fit Criterion: The recorded treated and untreated roads shall agree with the drivers' road treatment logs.
Customer Satisfaction: 3
Customer Dissatisfaction: 5
Dependencies: None
Conflicts: None
Supporting Materials: None
History: Created February 29, 2006

History: Raised by AG 25 Aug 99

[1] Robertson, S. AND Roberson, J. *Mastering the Requirements Process*, ACM Press, 1999 *(www.systemsguild.com/GuildSite/Robs/Template.html)*

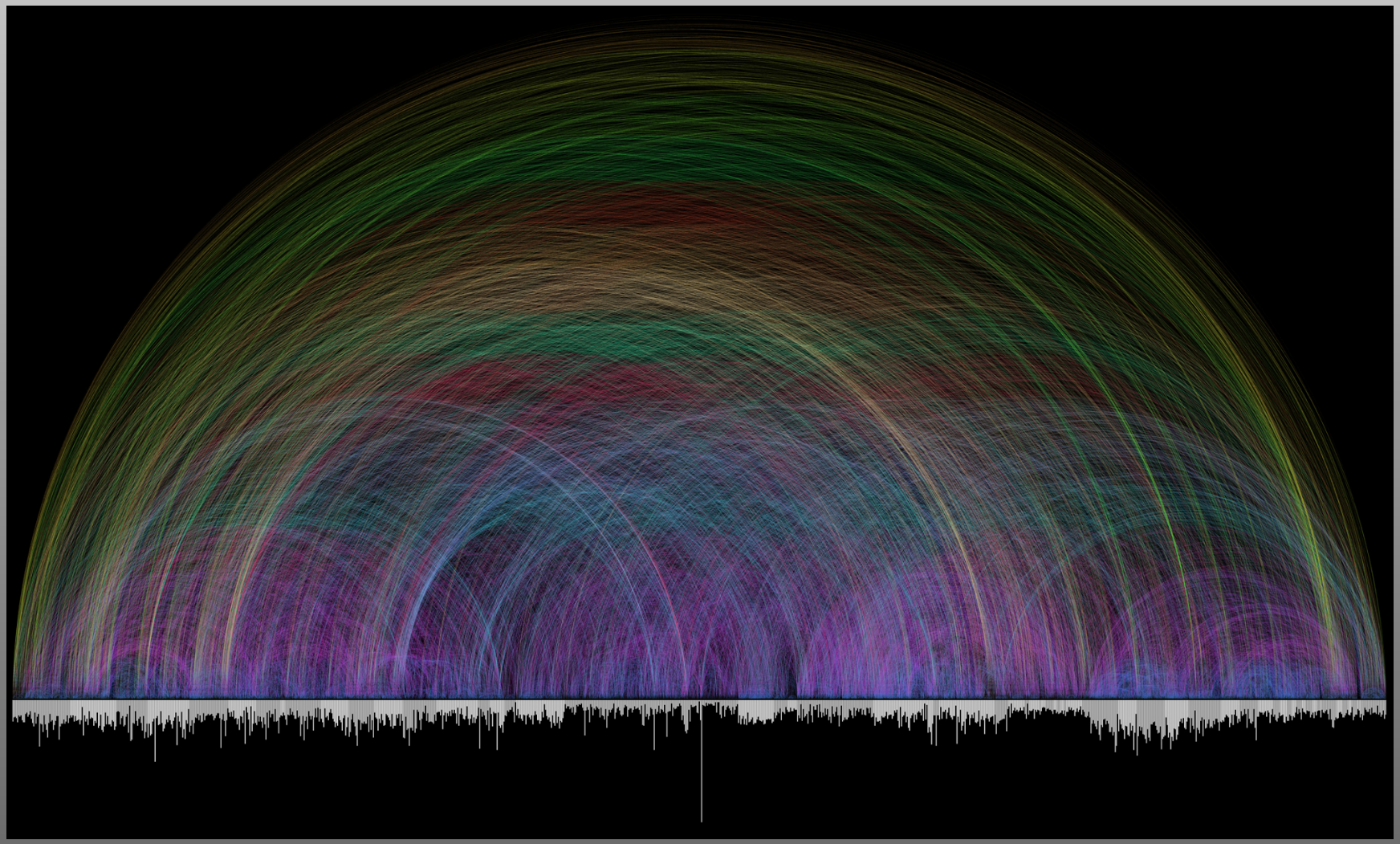
To This:



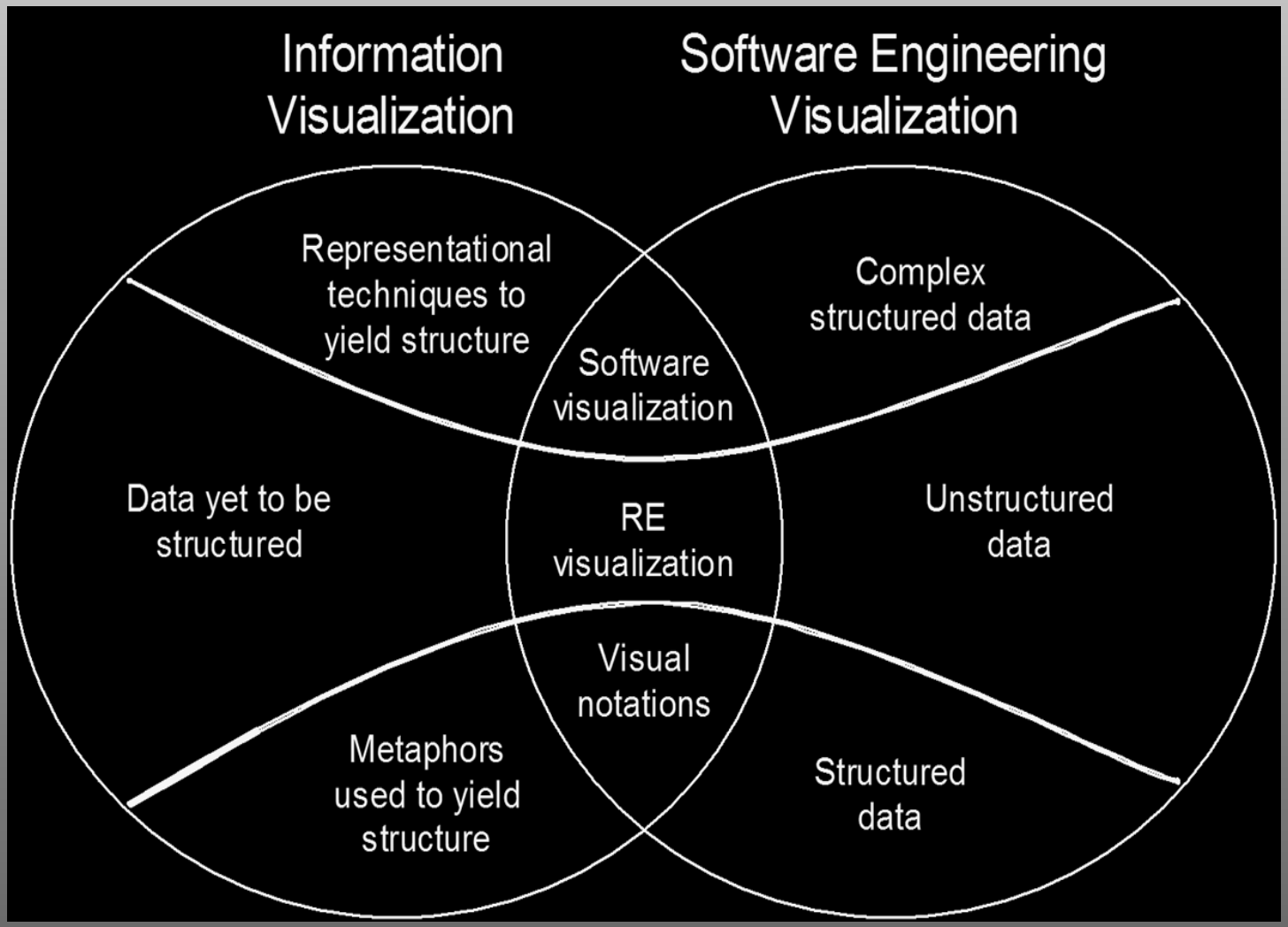
Magnus Rembold & Jürgen Späth in ***Total Interaction,*** Princeton Architectural Press, 2005,

Or This?

Arc Diagram of 63,000 Bible Cross-References,
Chris Harrison (CMU) and Christoph Römhild



Overlapping Concerns



Questions

- What are we looking for?
- What are the challenges?
- Where are the opportunities?
- How can we jumpstart research?