Comment on

Graphical Manipulation of Evidence in Structured Arguments
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Graphical Display of Evidence and Inference in a
Prototype System for Command-Post Information Fusion
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Once upon a time at 14 Wall St. …
Questions in Drafting Complaint (1st cut)

• What claims?
• What legal tests for deciding claims?
• What evidentiary conclusions needed for tests?
• What documentary support for evidence?
Questions in Drafting Complaint (1st cut)

- What claims?
- What legal tests for deciding claims?
- What evidentiary conclusions needed for tests?
- What documentary support for evidence?

Example Structured Argument (Lowrance, 2007)
Questions in Drafting Complaint (n\textsuperscript{th} cut)

• What claims?
  – Multiple plausible theories
  – Different “stories” and underlying policies

• What legal tests for deciding claims?
  – Multiple alternative versions of tests (i.e., hypotheses)
    o majority v. minority rules
    o different rules in different jurisdictions
    o unstated conditions (not: unconstitutional, preempted, contra basic principles)

• What evidentiary conclusions needed for tests?
  – What relations among multiple pieces of evidence, tests, and claims?
  – Which relations compete with or undercut each other?
  – Which evidence strengthens one claim (test, conclusion, etc.) but weakens another?

• What documents support evidence?
What kind of argument tools / pictures?

- Multiple trees corresponding to claims, tests, versions of tests?
- Graphs, not trees?
- Show positive/negative influences across and within claims?
  - Including both legal support and effect on story plausibility?
- Make inference and fusion methods explicit?
- Pose and assess alternative hypotheses?
- Support visualizing effect of changes in plausibility of some theories and hypotheses over others?
Some argument tools for visualizing legal inferences

- Graph with positive/negative influences
  - CATO’s Factor Hierarchy.
- Pose and assess alternative hypotheses
  - IBP’s Domain Model and explaining away counterexamples to hypotheses about which side should win particular issues.
  - Using LARGO to study SCOTUS oral arguments
    - How advocates propose alternative tests (i.e., hypotheses)
    - How Justices probe the tests with hypotheticals
    - How advocates respond to hypotheticals by
      - distinguishing hypothetical
      - modifying test
IBP Domain Model

(Brünninghaus & Ashley ICAIL-03)

Trade-Secret-Misappropriation

\[ \text{and} \]

Info-Trade-Secret

\[ \text{and} \]

Information-Valuable

\[ \text{and} \]

F15 p Unique-Product
F16 d Info-Reverse-Engineerable
…

Maintain-Secrecy

F6 p Security-Measures
F27 d Public-Disclosure
F4 p Nondisclosure-Agreement
F10 d Info-Disclosed-Outsiders
F12 p Restricted-Disclosures
F19 d No-Security-Measures

\[ \text{and} \]

Info-Misappropriated

\[ \text{or} \]

F14 p Restricted-Materials-Used
F25 d Reverse-Engineered
…

Info-Used

F1 d Disclosure-In-Negotiations
F21 p Knew-Info-Confidential
…

Confidential-Relationship

F21 p Knew-Info-Confidential
…

Improper-Means

F21 p Knew-Info-Confidential
…
Student’s Graphical Argument Representation with LARGO
Conclusions

Realistic graphic representation of evidence and inference in setting of drafting a complaint requires:

- Multiple trees corresponding to multiple claims, tests, versions of tests.
- Graphs, not trees, to show influences on multiple issues.
- Indication of positive/negative influences across and within claims.
  - Including both legal support and effect on story plausibility.
- Explicit indication of inference and fusion methods.
- Support for posing and assessing alternative hypotheses.
- Support for visualizing effect of changes in plausibility of some theories and hypotheses over others.