Policy-Aware Pipes - Accountability in Mashup Service of Linked Data

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Consuming Web Content - Pipes

• Rapid prototyping of web content
  – Concepts of the workflow system
  – Graphic editor + built-in operators/filters
  – Easy for casual users to reuse web content
    • Fetch data from multiple sources
    • Apply built-in filters and integrate data
    • Output as web pages or another data stream
  – Add policy to such tool ➔ Policy Aware Pipes
Using PAP in Semantic Pipes

1. Uses Semantic Pipe’s operators
2. Adds policy-aware operator
3. Runs & Checks debugging pane

Policy Compliance Justification

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<th>log</th>
<th>type</th>
<th>timestamp</th>
<th>message</th>
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<td>POLICY</td>
<td>&quot;2009-10-21T16:18:07-04:00&quot;</td>
<td>&quot;(Success) All ws sources comply with the policy of channel:<a href="http://meerkat.oreillynet.com/?_fl=rss1.0">http://meerkat.oreillynet.com/?_fl=rss1.0</a>&quot;</td>
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Different User’s Requirements

**Semantic Web Pipes**
- Other operations (merging/filtering)

**Policy Aware Pipe**
- Validating provenance/policy compliance statement
- Conflicts feedback
- Policy checking
- Generate provenance

**Output**
- Data + Policy compliance info. + Provenance

**Data publisher**
- Mashup developer
- Mashup consumer
Learning Privacy Policies

• Where does policy come from?
  – Impractical for the user to predict possible consequences in advance when disclosing data
  – Conflicts might arise at different context encounter
  – Uncertainty: privacy as an amalgamation of myriad individual
    • Policy is inconsistent and evolving
    • Shouldn’t technology framework supports too?
First Step

• Learning new rules from data, decision and context
  – if user A always overwrites usage policy P of data A with P’ under context C then, then new policy P’ should be included

• Designing experiment currently