Understanding the Context of Architecture Evaluation Methods

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What to do, what to do?

• You want to evaluate your architecture.
• You have read about various architecture evaluation methods.
• How to choose?
  – Believe what the authors of the methods say. Not likely
  – Look at various surveys of methods. They seem to miss what is important.
• The claim of our paper is that the context of evaluation determines the method you should use.
Examples

• You need the results in a hurry
  – Do not choose a method that requires up front arrangements

• You want the results to be kept private
  – Do not choose a method where the results are public

• No implementation of the system exists
  – Do not choose a method that includes code analysis
What is the paper about?

- We identified a collection of contextual factors
- We analyzed four methods based on these contextual factors
- i.e. We generated a matrix that looks like

<table>
<thead>
<tr>
<th>Methods</th>
<th>Contextual Factors</th>
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What are the contextual factors?

• Inputs
  – Explicit or implicit?
  – Assumed before review or generated as a portion of review?

• Outputs
  – What is the criteria used during the evaluation?
  – Who sees the results?

• Mechanisms
  – Who are participants?
  – Who sets priorities (tradeoffs)?
  – What kind of social interaction is there in the method?
More Contextual factors

• Controls
  – What are the evaluation objectives?
  – What is the scope?

• Process
  – What is the schedule?
  – How open is the process?
  – When in the life cycle is the evaluation held?

• What systems did you evaluate and what were your conclusions
  – READ THE PAPER
Research Questions

• Cost/benefit for architecture evaluations
  – Lots of data about cost/benefit for code reviews. Only anecdotal data for architecture evaluations

• Effect of corporate culture on frequency and type of evaluations
Questions for me?