JSD & RUP

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Assignment 3

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HISTORY / CONTEXT
JSD

• A method for specifying and designing inherently sequential systems
• Pays initial attention to the domain of the software then later to the software itself
• Focuses on event sequencing rather than static data models
• JSD’s domain is the real world
  – Where entities exhibit concurrent time ordered behavior
  – The system must model such behavior
RUP

• Unified Process by Jacobson et al. → Rational Unified Process
• Object-oriented methodology using modelling techniques (mainly UML)
• Software engineering process, not methodology according to Jacobson
• use-case driven, architecture centric, iterative and incremental
MODELS/TECHNIQUES
JSD

• Design must begin by describing and modeling the real world
• Time ordered model of the real world must itself be time ordered
• System is implemented by transforming specification into a set of processes
RUP

- Based on UML modelling to model “real world”
- Models below describe the static structure of the designing process

Source: Rational, 2011
STRUCTURE
JSD

• Modeling Phase
  – Real world is described in terms of events, entities, roles, event orderings and entity attributes

• Network Phase
  – Previously identified processes are configured into a process network

• Implementation Phase
  – Timing and the implementation of scheduling the processes is considered
The nine core process workflows

Source: Rational 2011
RUP
Iterative and incremental process

Cycles
- Phases
  - Iterations
    - Workflows
      - Activities

EVALUATING JSD & RUP USING THE NIMSAD FRAMEWORK
## The Problem Situation

<table>
<thead>
<tr>
<th>JSD</th>
<th>RUP</th>
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<tbody>
<tr>
<td>• Maps real world onto entities and events using system specification diagram and distinguish sequential events that carry data between entities</td>
<td>• Use wide range of unified modelling techniques to produce use-case models that will aid the creation and validation of architecture</td>
</tr>
<tr>
<td>• Suitable for both structured and ill-structured problems</td>
<td>• Concerned with technical side of the problem (Political/cultural aspects are left out)</td>
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<td>• Concerned with technical side of the problem (Political/cultural aspects are left out)</td>
<td>• No assessment of clients perception of ‘reality’ is performed</td>
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</tbody>
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The Problem Solver

- None of the current discussed methodologies provide any essential information about their intended problem solvers.
- There are no relevant answers which might be meet questions of NIMSAD framework about value sets, ethical behaviour and ‘mental construct’ of problem solver.
- Economic, cultural and political sides are skipped.
- Experience and knowledge of developer are slightly taken into account.
The Problem - Solving Process

RUP

- Stage 1: modelling business workflow
- Stage 2: modelling business workflow
- Stage 3: business vision document
- Stage 4: requirements workflow
- Stage 5: analysis & design workflow
- Stage 6: analysis & design workflow
- Stage 7: analysis & design workflow
- Stage 8: Implementation, Test, Deployment workflows
Evaluation

Differences

**JSD**
- Models don’t capture many attributes of real world
  → can’t cope with most of big real world situations because it’s narrowed to sequential processes
- Delivers theoretical solution to perceived problems and doesn’t consider the implementation in action world
- Promotes thinking about sequential interactions of entities (functions thinking)

**RUP**
- Models capture more attributes of real world
  → can cope with complex and ill-structured problem situations
- Will deliver blueprint for IS implementation and help managing implementation
- Promotes object-oriented thinking
Evaluation
Commonalities

• Might not identify real underlying problems
• Adaptive to changes in environment
• High Possibility to justify development and decisions
• Don’t help to identify the most relevant technical solutions for implementation
Summary

• Methodologies History / Overview & Context
• Tools and techniques used during the process
• Structure description
• Methodologies through NIMSAD lens
• Evaluation using NIMSAD
DISCUSSION
References

References continued