Flexible Business Process Modelling via Dynamic Condition Response Graphs

Morten Marquard and Tijs Slaats

Joint work with
Thomas Hildebrandt, Soren Debois and Raghava Rao Mukkamala

Overview of Tutorial

- Background
- Introduction to DCR Graphs
- Hands-on Modelling Exercise
- Questionnaire
- Discussion

Exformatics

- Small Danish company (15 employees)
- Founded in 2003
- Provides software solutions for a large (40+) customer base, including:
  - Intellectual property, legal
  - Sales and delivery processes
- Develops IT systems for knowledge workers

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Knowledge Workers need Flexible Workflow Systems

- Knowledge Workers:
  - Solve diverse problems
  - Are experts at what they do
  - Require freedom to make their own decisions

- However, rules do exist:
  - Laws
  - Business practices

KEEP CALM & FOLLOW THE RULES

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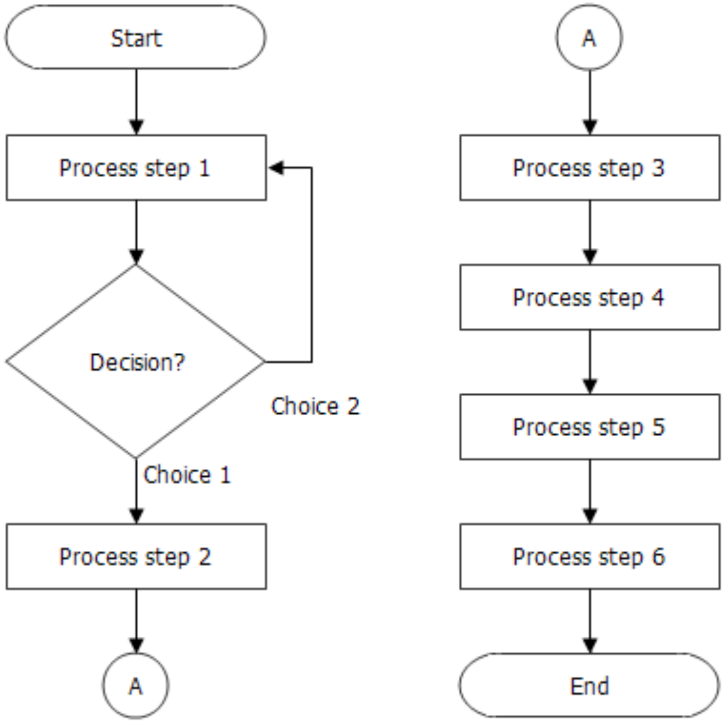
State-of-the-Art

- Current Workflow systems:
  - Solve tasks in given order
  - The system is in control, not the user



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Knowledge Workers need Flexible Workflow Systems

- Flexible Workflow Systems:
  - Based on describing rules directly instead of describing the flow of work
  - Offers users all possible choices that follow the rules, while still advising on best-practice
  - Are more easily adapted to change (new laws, changing business practices)
  - Require flexible workflow notations

DCR Graphs

- Such a declarative workflow notation
- Consists of *events* (tasks) and *constraints* (rules) between events
- Unconstrained events can happen at any time
- State represented as a *marking* consisting of *executed*, *pending* and *included* events

DCR Graphs by Example

We consider a basic expense claim example, with:

- 4 main activities:
  - <u>Create</u> Expense Claim
  - <u>Approve</u> Expense Claim
  - <u>Reject</u> Expense Claim
  - <u>Payout</u> Expense Claim
- And three roles:
  - <u>Employee</u>, can create an expense claim.
  - <u>Manager</u>, can approve or reject an expense claim.
  - <u>Finance</u> Department, can reject and payout an expense claim.

DCR Graphs by Example

- A claim should be created before it can be approved or rejected.
- A claim should be approved before it can be paid out.
- A claim should only be created once. (Every run of the workflow handles a single claim.)
- Once a claim has been rejected, it should not be paid out, unless it is approved again at some later point in time.
- If a claim is created, it should eventually be paid out, unless it is rejected.
- Payout should end the process.

Questions?

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Hands-on Assignments

Discussion