Best Practise in Process Design
PV207 - Business Process Modelling

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Last Lectures Terms Recap

BPM, BPMN, BPMS ,BP?...

- **BPM** Business Process Management
  - IT-Business approach to manage a company
  - covers a lot of technical and business disciplines
- **BPMS** Business Process Management System
  - technical system which made BPM live
  - heart of the modern BPM(2.0)
- **BPMN** Business Process Modelling notation
  - describes process in precise, non-ambiguous way
  - programming/diagrammatic language for a processes
- **BP** Business Process
  - ... ?

Introduction

1. process execution behind the scene
2. best practise of process modelling
3. basic mistakes in process design
4. 7 guidelines for better models
5. from abstract process to executable one
6. process redesign, pursuing the desired effect
7. conclusion

Outline

Process Execution Behind the Scene

Petri Nets

- theoretical concept of processes and their execution
- strong mathematical background
- o lot features can be proven
    - deadlock free
    - unreachable part of a process
    - fairness

Petri Nets elements

- Petri net consists of three basic elements

Transition

Place

→ Arc

Petri Nets places and transitions

- static elements of the model
- creates the network
- they alternate on every path in the net
- transition may fire only if it is *enabled*
- transition is enabled when there is a token in every place connected to the transition with an incoming arc

Process Execution Behind the Scene

Petri Nets tokens

- dynamic element of the model
- they sits in places
- move along the arcs
- are moved when transition *fires*

Process Execution Behind the Scene

Petri Nets in Vivo

- WoPeD tool presentation
- `http://woped.dhbw-karlsruhe.de/woped/`

Petri Nets conclusion

- there is a transition from PN to BPMN, they are quite similar
- necessary when you need to prove heavy features of a process
- the principle of moving tokens is useful when looking for errors

Outline

Best Practise of Process Modelling

Best practise

- proved useful over time -> good practise
- evolved to be the best we can get
- just a practise not the must obey law
- frees us from 'reinvent a wheel' case
- always an example which needs refinement

Best Practise of Process Modelling

Process model

- Always an abstraction of a real world
- let us better understand the problem
- powerful communication tool
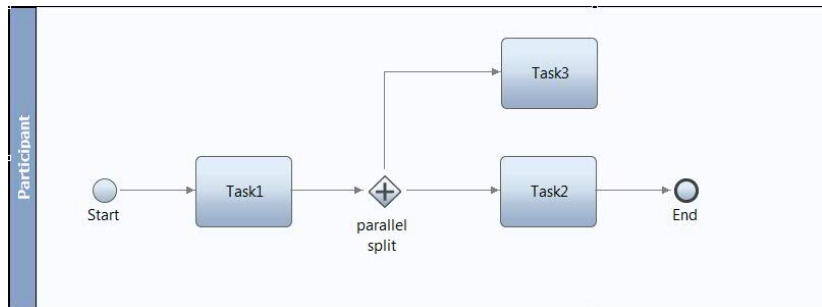- appropriate for target audience
- complexity VS information value

Outline

Basic design mistakes

- this is not a best practise
- mistakes that must be avoided
- demonstrated on very simple processes
- hard to find in complex processes
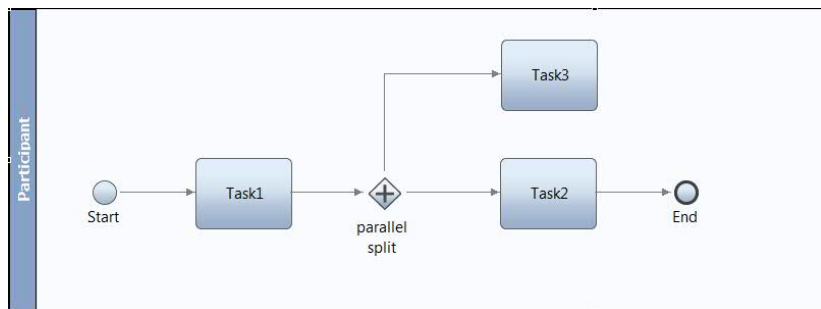- can be check automatically

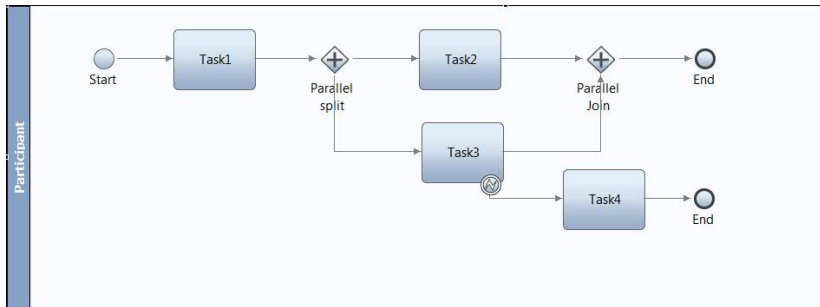# Basic Design Mistakes

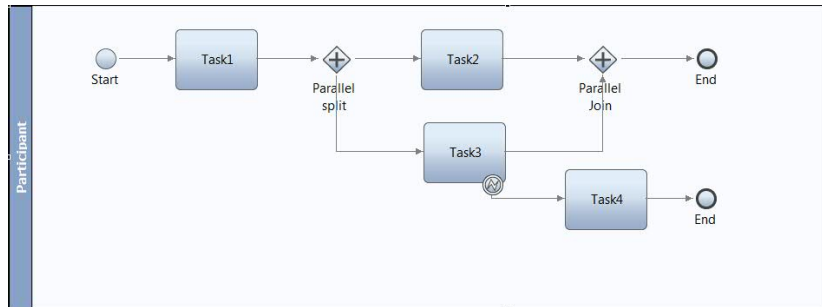## What is wrong?

Basic Design Mistakes

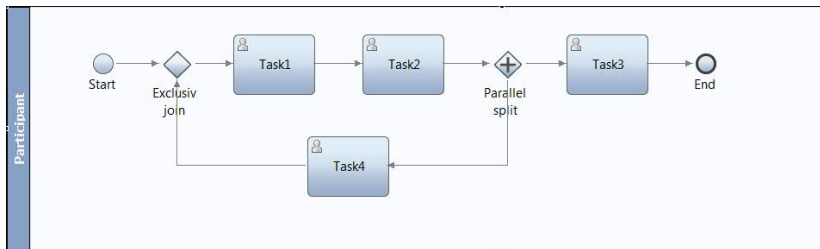## Dangling token

Basic Design Mistakes

What is wrong?

Basic Design Mistakes

Possible deadlock

Basic Design Mistakes

What is wrong?

Basic Design Mistakes

Never ending process
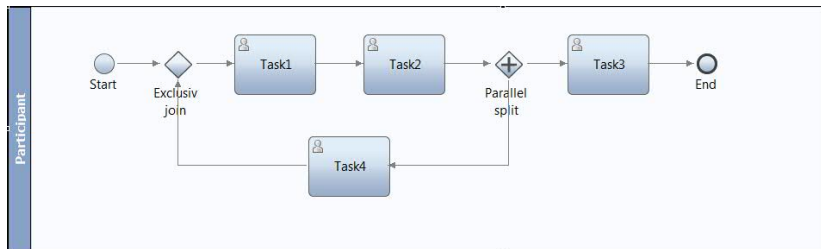
Outline

7 Guidelines of process modelling

- for clear and understandable models
- usability is a quality issue
- tells only how, nothing about what
- change only structure not behaviour
- some have contradictory effect, so choose wisely
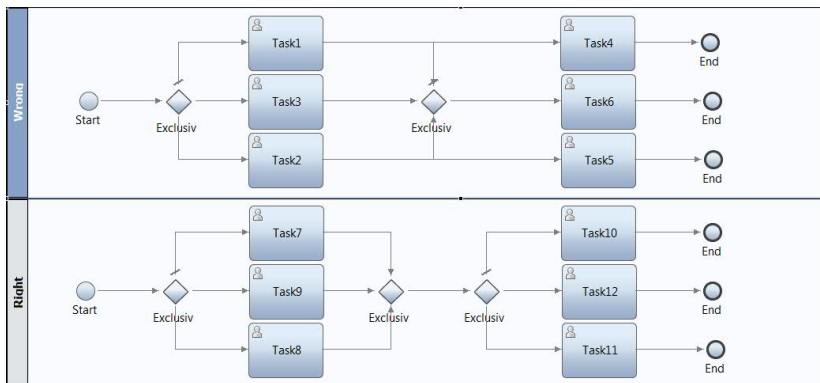- prioritised by industry experts

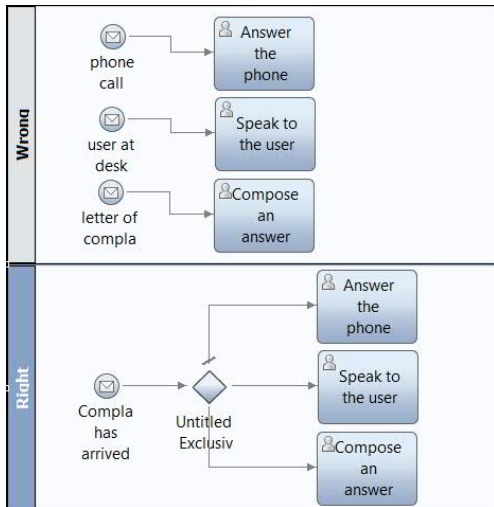Use as few elements in the model as possible
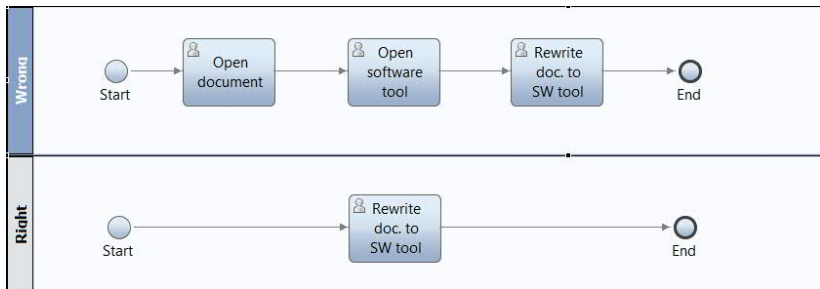
7 Guidelines of Process Modelling

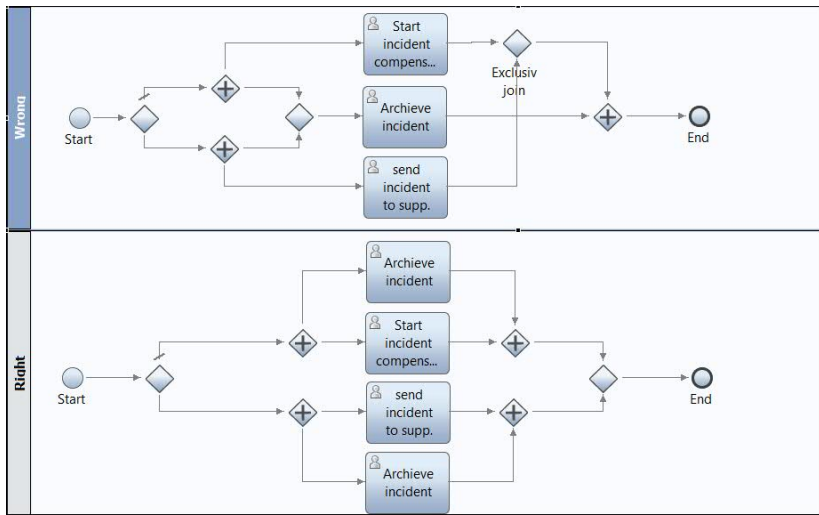## Minimize the routing paths per element

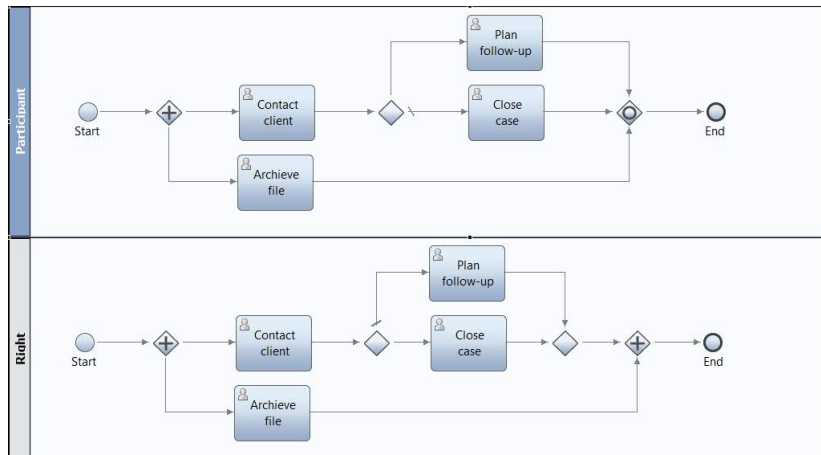# 7 Guidelines of Process Modelling

Use one start event

7 Guidelines of Process Modelling

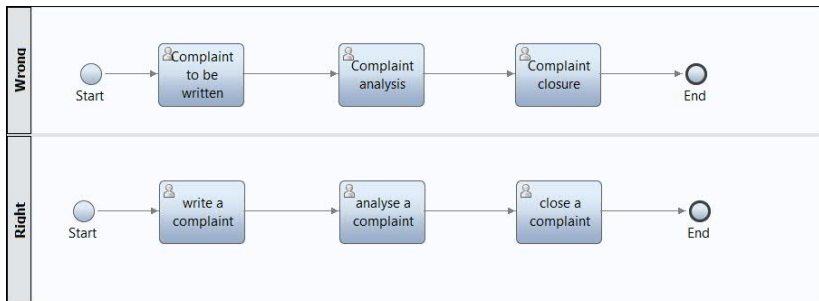## Model as structured as possible

7 Guidelines of Process Modelling

Avoid inclusive gate elements

7 Guidelines of Process Modelling

Use verb-object activity labels

7 Guidelines of Process Modelling

Decompose the model if more than 50 elements

Decompose the model if more than 50 elements
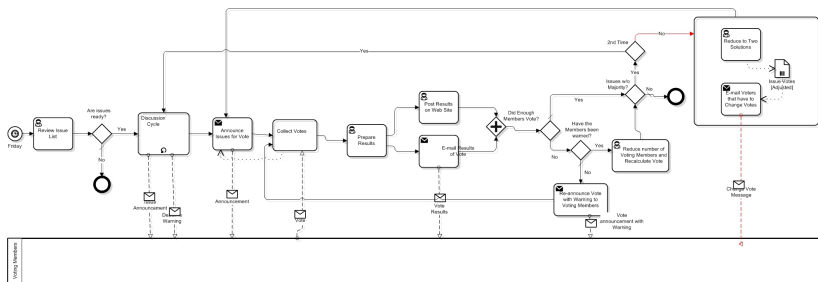
Guidelines overview

pos.	Description
1	Use as few elements as possible
2	Minimize the routing paths per element
3	Use one start event
4	Model as structured as possible
5	Avoid inclusive gate elements
6	Use verb-object activity labels
7	Decompose a model with more than 50 elem.

Guidelines prioritisation

pos.	Description
4	Model as structured as possible
7	Decompose a model with more than 50 elem.
1	Use as few elements as possible
6	Use verb-object activity labels
2	Minimize the routing paths per element
3	Use one start event
5	Avoid inclusive gate elements

Outline

From abstract to runnable

- start with a process understandable by business people
- such process is build up to
    - fulfill business goals
    - bring added value
    - define responsibilites
- end with a process executable by a machine
- such process should be
    - without ambiguity
    - complete
    - fault tolerant
- but still adhere to business points above...

From Abstract to Runnable

Missing time-out
Assumes that the other party will respond
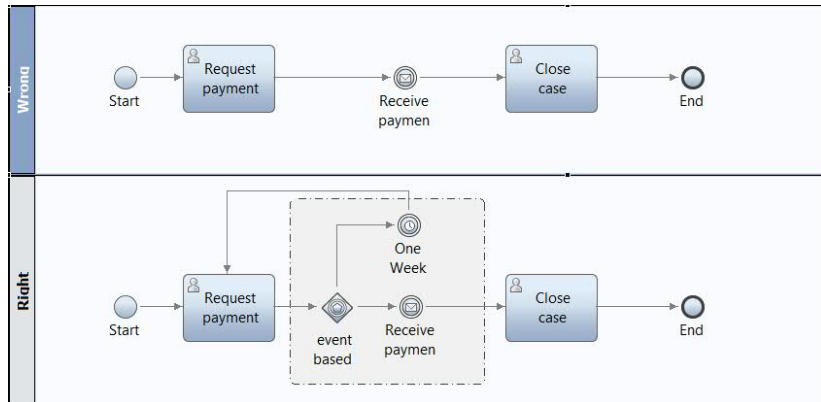
From Abstract to Runnable

Inappropriate handling of revision request
It is better to continue as the same case
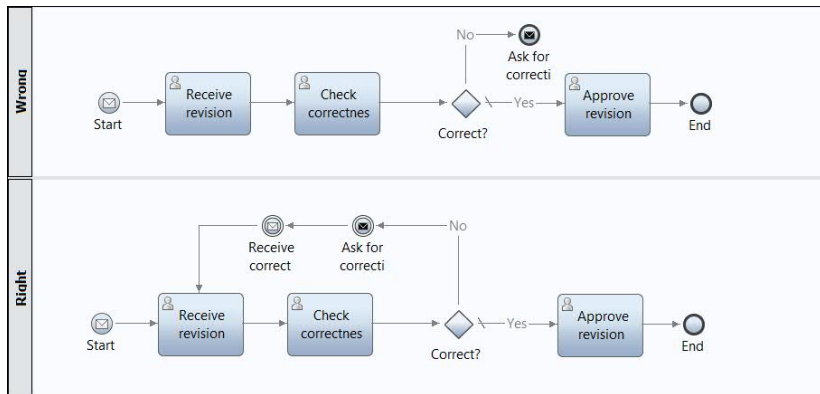
From Abstract to Runnable

Inappropriate end of (sub)process:
the process continues along the same path
irrespective of a positive or negative result
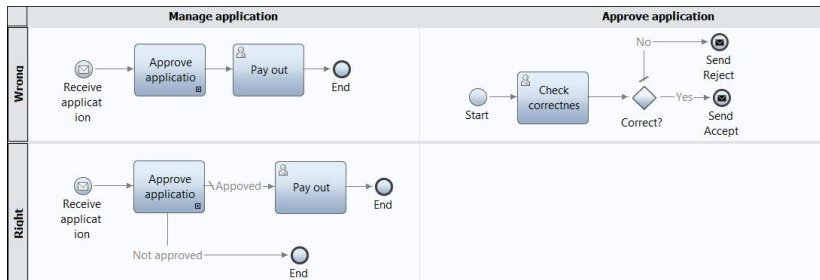
From Abstract to Runnable

Sunny day scenario
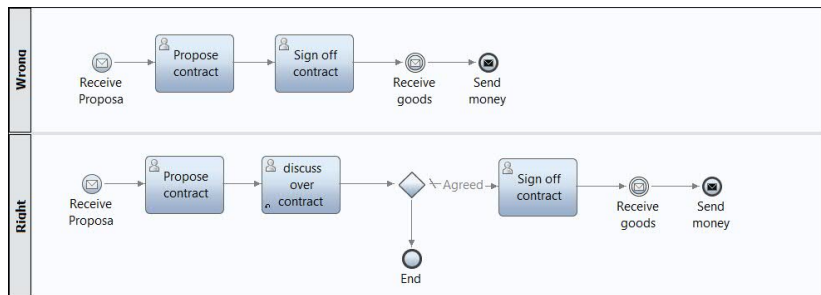
Outline

Process Redesign

- everything gets old even processes
- environment undergoes never-ending change
- processes should adapt to the change from time to time
- two ways how to do it
  - by revolution => design from scratch
  - by evolution => redesign the old one

Process Redesign

Evolution

- input to redesign can be
  - regular business process
  - undocumented, manual, ad-hoc process
- redesign is often about trade-offs
- measure and match the performance of AS-IS and TO-BE
- simple simulation tool BIMP
- four parameters: Quality, Time, Flexibility, Cost
- full list in a paper linked on the last slide

Contact reduction: reduce the number of contacts with customers and third parties

- the exchange of information with a customer is time-consuming
- each contact may introduces new errors
- possible risk of losing some valuable data

- Q+/−   T+   F+   C+/−

Process Redesign

Order types: determine whether tasks are related to the same type of order and, if necessary, distinguish new business processes

- concerned with sub-flows that are not specific for the business process they are part of.
- may cause less effective management of this sub-flow
- result in more coordination problems between the business processes
- less possibilities for rearranging the process

- Q−   T+   F−   C+

Process Redesign

Task elimination: eliminate unnecessary tasks from a business process

- task is considered unnecessary when it adds no value from a customer's point of view
- control tasks and redundant tasks in a business process are such cases

- Q–   T+   F+   C+

Process Redesign

Triage: consider the division of a general task into two or more alternative tasks

- Goal is to design tasks that are better aligned with the capabilities of resources and the characteristics of the orders being processed
- each expert does what he knows best
- adds complexity thus less flexibility
- possible risk for quality from monotonous work

- Q+/−   T+   F−   C+

Process Redesign

Parallelism: consider whether tasks may be executed in parallel

- putting tasks in parallel leads to reduced throughput time
- fights with a legacy from old hand to hand systems
- the management of business processes with concurrent behavior can become more complex

- Q–   T++   F–   C–

Outline

Summary

- basic mistakes in process design
- 7 guidelines for better models
- from abstract process to executable one
- process redesign, pursuing the desired effect

Conclusion

Further reading

- just for curious one:
  Best practices in business process redesign:an overview and qualitative evaluation of successful redesign heuristics
- recommended for everyone:
  BPMN 2.0 by Example
- former is available through electronic resources latter at bpmn.org

Conclusion

Job opportunity

- Working in my team as (Junior) Process Analyst
- Map financial processes for CFO
- Located in Prague, W.A.G. payment solution
- Closed loop payment card system
- Contact me on dockal@eurowag.com

Questions?

Thank you for your attention