

Best Practise in Process Design

PV207 - Business Process Modelling

Lubomír Dočkal

March 30, 2015

Last Lecture Recap

BPM, BPMN, BPMS ,BP?...

- There has been a lot of BP[?] so far.
- **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 process modeller

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

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable
- 6 Process Redesign
- 7 Conclusion

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

Process Execution Behind the Scene

Petri Nets elements

- Petri net consists of three basic elements



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*
- transition may fire only if it is *enabled*

Process Execution Behind the Scene

Petri Nets in Vivo

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

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling**
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable
- 6 Process Redesign
- 7 Conclusion

Best Practise of Process Modelling

Best practise

- proved useful over time
- 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

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

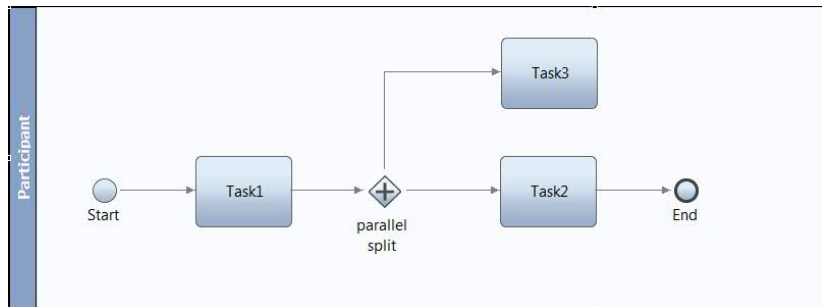
- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes**
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable
- 6 Process Redesign
- 7 Conclusion

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

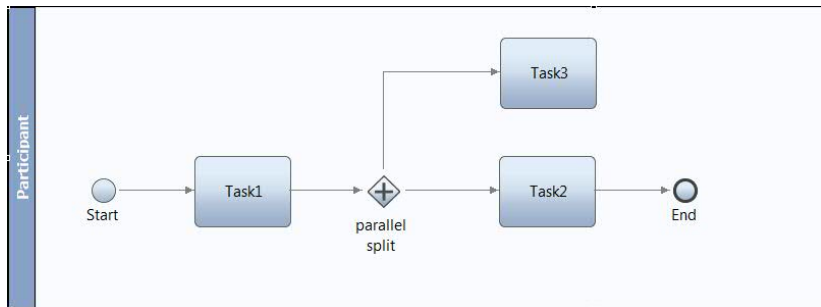
Basic Design Mistakes

What is wrong?



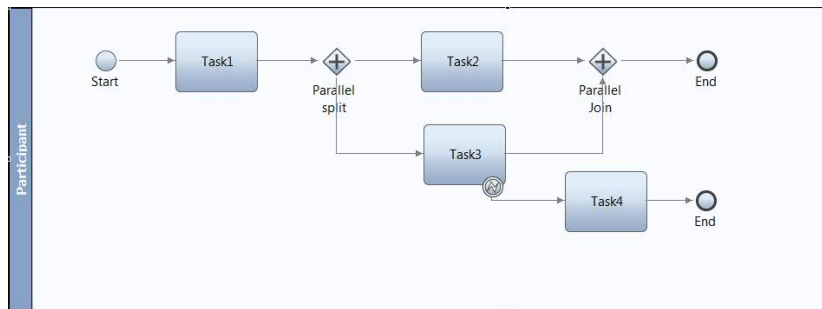
Basic Design Mistakes

Dangling token



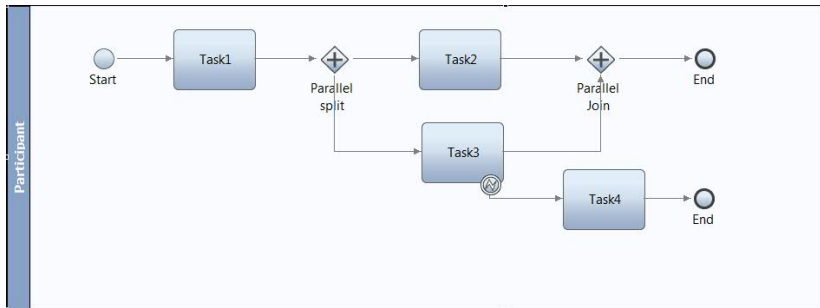
Basic Design Mistakes

What is wrong?



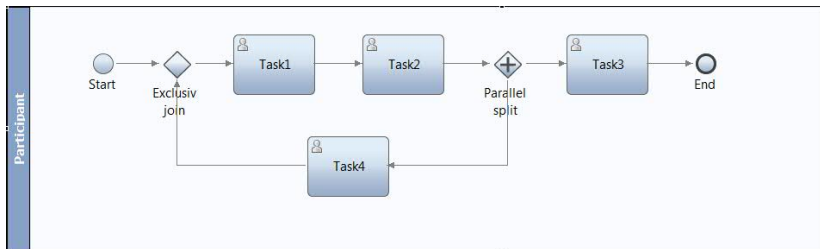
Basic Design Mistakes

Possible deadlock



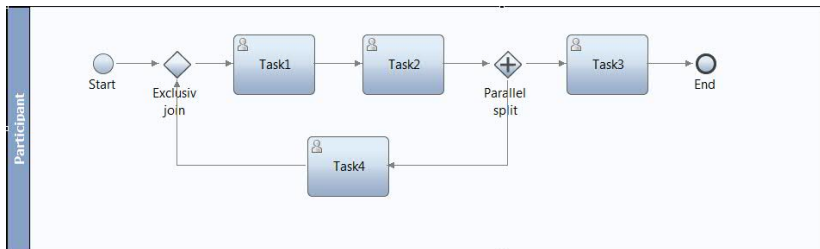
Basic Design Mistakes

What is wrong?



Basic Design Mistakes

Never ending process



Outline

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling**
- 5 From Abstract to Runnable
- 6 Process Redesign
- 7 Conclusion

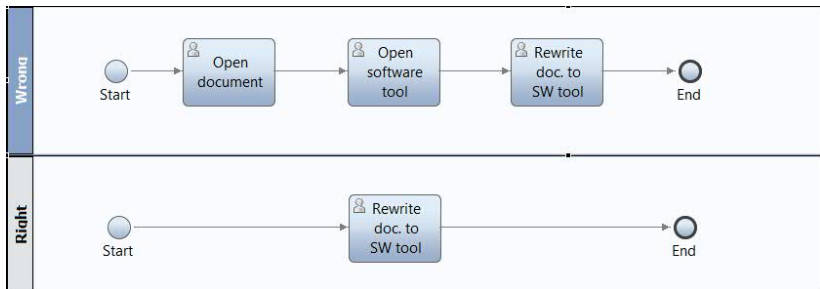
7 Guidelines of Process Modelling

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

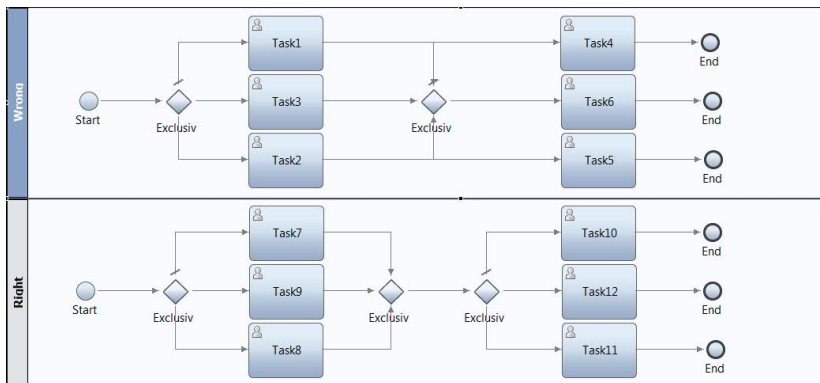
7 Guidelines of Process Modelling

Use as few elements in the model as possible



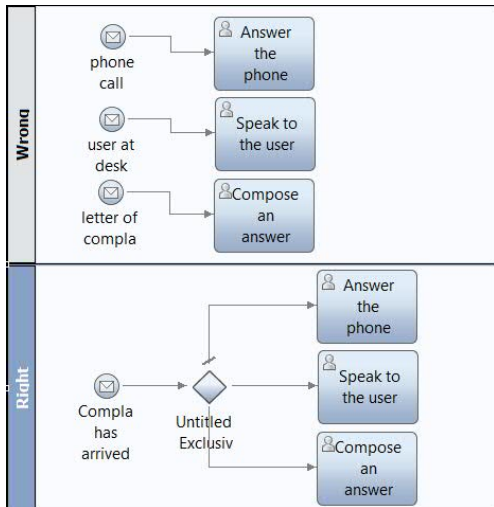
7 Guidelines of Process Modelling

Minimize the routing paths per element



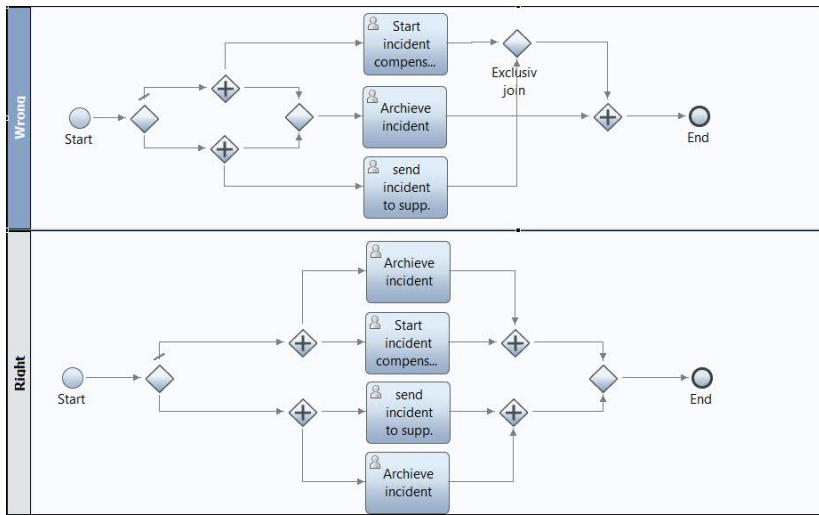
7 Guidelines of Process Modelling

Use one start event



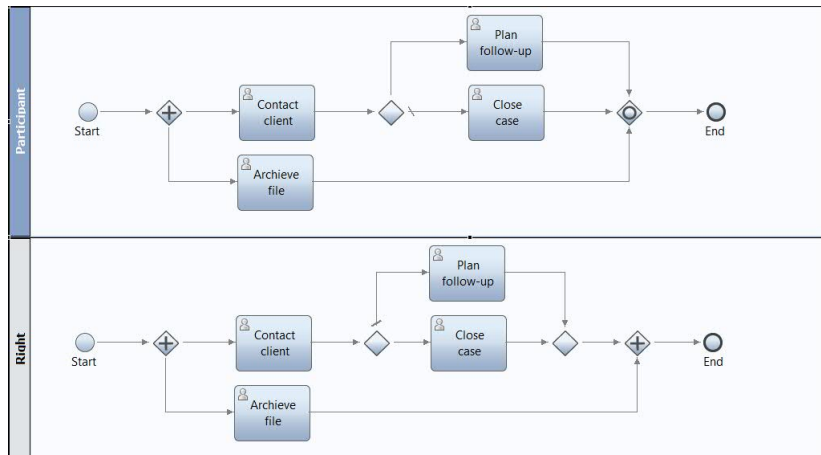
7 Guidelines of Process Modelling

Model as structured as possible



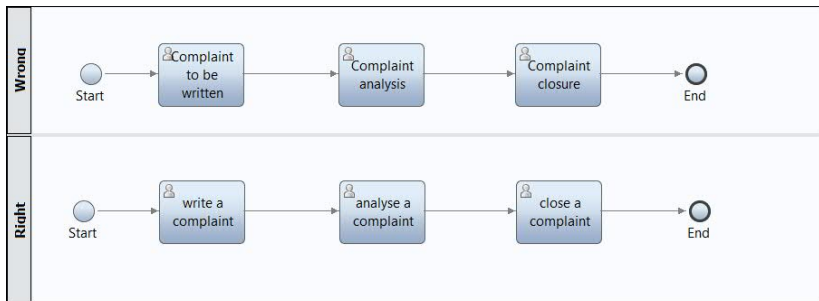
7 Guidelines of Process Modelling

Avoid inclusive gate elements



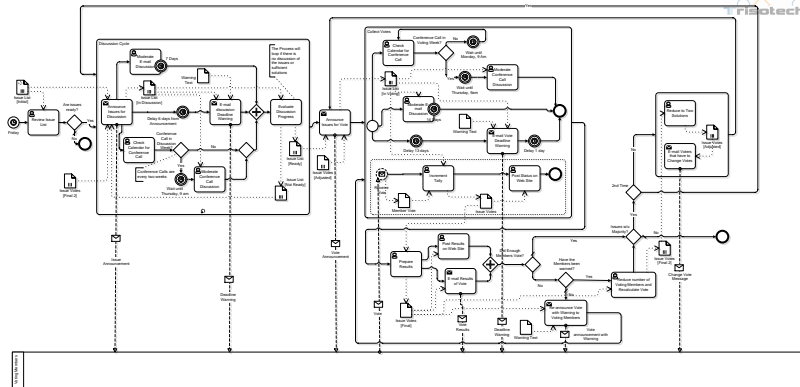
7 Guidelines of Process Modelling

Use verb-object activity labels



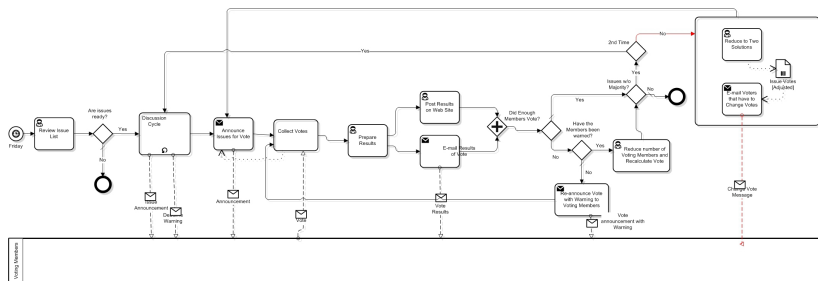
7 Guidelines of Process Modelling

Decompose the model if more than 50 elements



7 Guidelines of Process Modelling

Decompose the model if more than 50 elements



7 Guidelines of Process Modelling

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.

7 Guidelines of Process Modelling

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

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable**
- 6 Process Redesign
- 7 Conclusion

From Abstract to Runnable

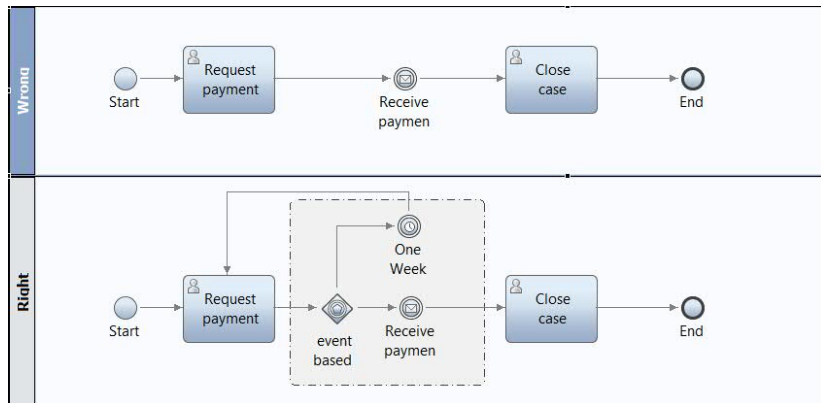
From abstract to runnable

- start with a process understandable by business people
- such process is build up to
 - follow business goals
 - add value
 - etc.
- end with a process executable by a machine
- such process should be
 - without ambiguity
 - complete
 - fault tolerant

From Abstract to Runnable

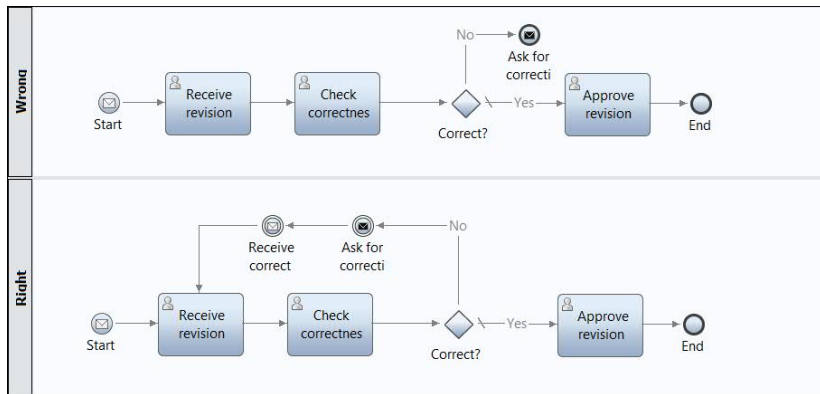
Missing time-out

Assumes that the other party will respond



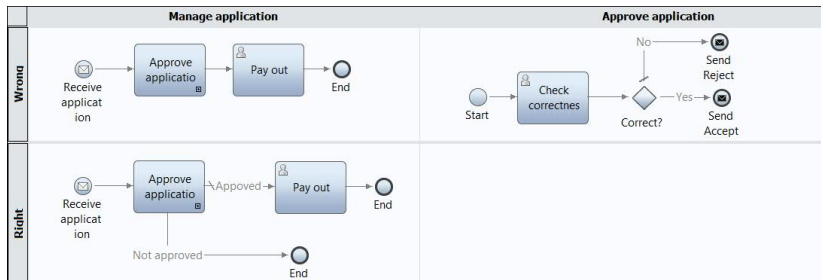
From Abstract to Runnable

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



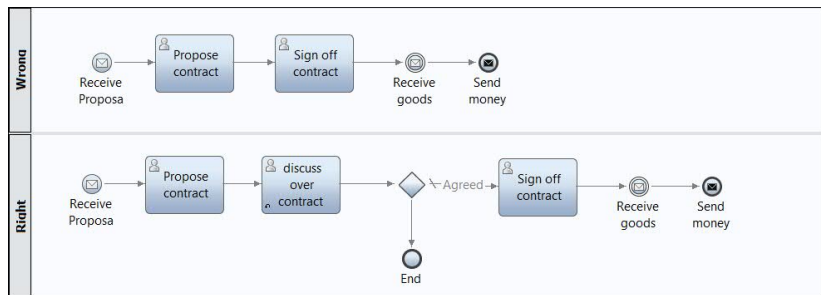
From Abstract to Runnable

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

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable
- 6 Process Redesign**
- 7 Conclusion

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

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
- four parameters: Quality, Time, Flexibility, Cost

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+

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+

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+

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

- 1 Process Execution Behind the Scene
- 2 Best Practise of Process Modelling
- 3 Basic Design Mistakes
- 4 7 Guidelines of Process Modelling
- 5 From Abstract to Runnable
- 6 Process Redesign
- 7 Conclusion**

Summary

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

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

Questions?

Thank you for your attention