

Lab 1: Introduction

1. Business Process Management







Reference book: Business Process Management, Mathias Weske.

- A *business process* consists of a set of activities that are performed in coordination in an organizational and technical environment.
- *Business process management* includes concepts, methods, and techniques to support the design, administration, configuration, enactment, and analysis of business processes.
- A *business process model* consists of a set of activity models and execution constraints between them. A *business process instance* represents a concrete case in the operational business of a company, consisting of activity instances. Each business process model acts as a blueprint for a set of business process instances, and each activity model acts as a blueprint for a set of activity instances.

2. Business Process Modelling Notation BPMN

Reference: http://www.omg.org/bpmn/Documents/Introduction_to_BPMN.pdf

BPMN is a flowchart based notation for defining Business Processes. The four basic categories of elements are:

1. Flow Objects
 - Event is something that “happens” during the course of a business process. There are three types of Events, based on when they affect the flow: Start , Intermediate , and End 
 - Activity is a generic term for work that a company performs. The types of Activities are: Task and Sub-Process
 - Gateway is used to control the divergence and convergence of Sequence Flow. Internal Markers will indicate the type of behaviour control (forking, merging, and joining of paths). For example: Exclusive Gateway , Parallel Gateway , Inclusive Gateway 
2. Connecting Objects
 - Sequence Flow is used to show the sequence that activities will be performed in a Process.
 - Message Flow is used to show the flow of messages between two entities that send and receive them
 - Association is used to associate information with flow objects
3. Swimlanes
 - Pool is a graphical container for partitioning a set of activities from other Pools
 - Lane is a sub-partition within a Pool and will extend the entire length of the Pool, either vertically or horizontally
4. Artifacts
 - Data object are a mechanism to show how data is required or produced by activities. They are connected to activities through Associations.
 - Group can be used for documentation or analysis purposes, but does not affect the Sequence Flow.
 - Annotation are a mechanism for a modeller to provide additional information for the reader of a BPMN Diagram

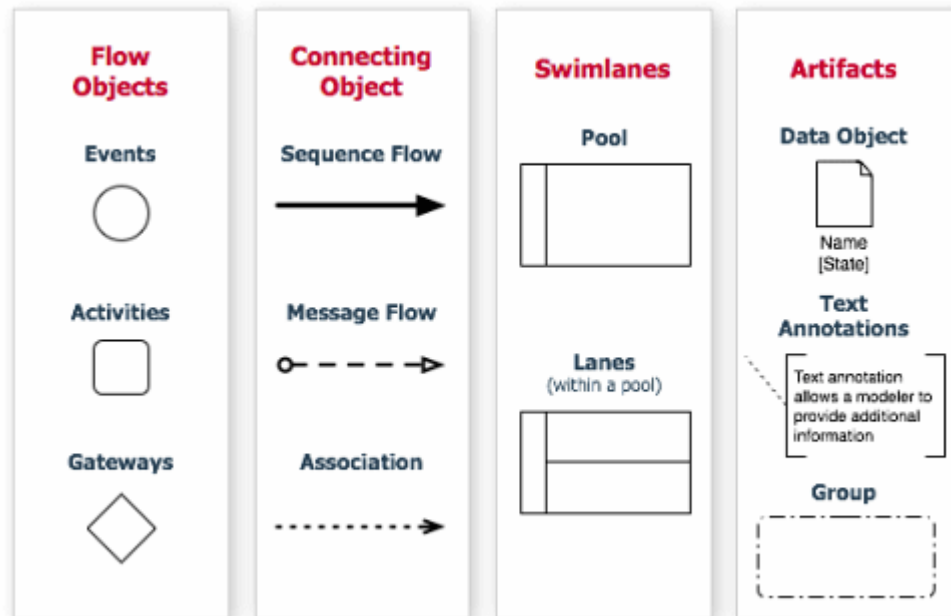


Figure 1: Core Set of BPMN Elements

3. BPM Academic Initiative

BPM Academic Initiative is a web-based process modelling platform. It's an online tool; no installation required. It includes different models and languages. Our main focus will be BPMN 2.0, EPC, Petri nets and colored Petri nets.

<http://www.signavio.com/en/academic.html>

Practical work

1. Create an account
2. Creating and managing files and diagrams
3. Design the following Business Process Diagram BPMN 1.2

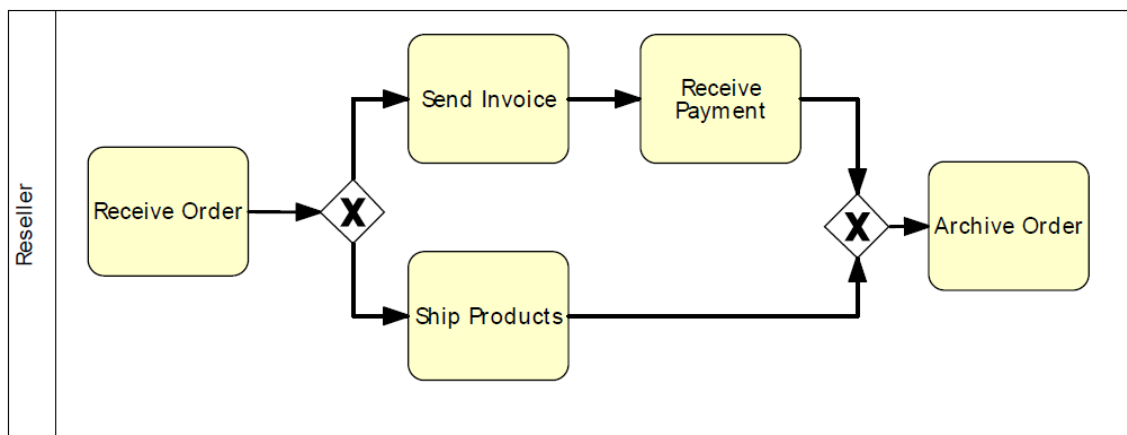


Figure 2: Simple ordering process of reseller

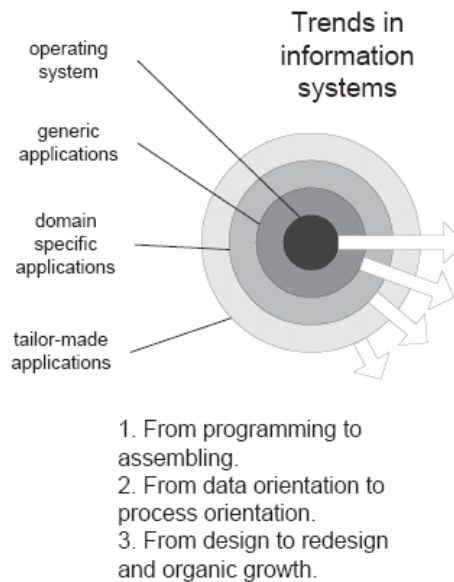
4. Share your diagram with others
5. Add and view comments on a diagram
6. Print a diagram; save it as a PDF

Questions for discussion

1. Study the figure and answer the following two questions

Reference: <http://bpt.hpi.uni-potsdam.de/pub/Public/PaperArchive/bpm2003.pdf>

- a. Assign the following software systems to the appropriate layer as depicted above. Is a clear assignment always possible? What is the relation of these software systems to business processes?
 - UNIX
 - SAP R3
 - Excel
 - Database Management Systems
 - Workflow Management Systems
 - Virus Scanner
 - CORBA-Broker
- b. Give examples for the statement that the layers depicted above are moving to the outside while absorbing new functionality. Is there also a movement to the inside?



2. What is a process-oriented information system?
3. Under which circumstances does it make sense to use a process-oriented information system in a company?
4. What are the special requirements regarding process models executed by process-oriented information systems?