

Author:
Jutta Stockklauser

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How to describe Museum Processes and Subprocesses Guidebook

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How to describe Museum Processes and Subprocesses Guidebook

1. Subprocess

1.1. General

1.1.1. Introduction

A successful business needs committed workers who complete work procedures consistently and accurately. It also requires all involved to contribute their experience, knowledge, and ideas to constant improvement for the future.

A Standard Operating Procedure (SOP) is a set of written instructions that document a routine or repetitive activity followed by an organization. The development and use of SOPs are an integral part of a successful quality system as it provides individuals with the information to perform a job properly, and facilitates consistency in the quality and integrity of a product or end-result.

Well-written standard operating procedures (SOPs) provide direction, improve communication, reduce training time, and improve work consistency.

Standard operating procedures used in combination with planned training and regular performance feedback lead to an effective and motivated workforce. Museum managers and advisers benefit from consistent work performance and predictable results. Workers benefit from increased confidence and a clear sense of achievement.

This document describes a SOP of a subprocess consisting of several steps.

1.1.2. Defining systems, procedures, and steps

Producing a high-quality product at a profit depends on the consistent operation of all systems within a museum.

Management systems are made up of work procedures.

Steps are the smaller actions that when put together form a procedure. The small steps are where variation among different workers takes place if procedures are not standardized. Managers can use Standard Operating Procedures to help ensure everyone performs each procedure the same way every time.

1.1.3. Objective

SOPs are intended to be specific to the organization or facility whose activities are described. This document describes how to write a SOP and illustrates the format design and guidelines for the preparation of Museum process SOPs.

1.1.4. Preparation of a SOP description

SOP descriptions should be written with sufficient detail so that someone with limited experience with or knowledge of the procedure, but with a basic understanding, can successfully reproduce the procedure when unsupervised.

1.1.5. Formats for SOP descriptions

When writing Standard Operating Procedures, managers can choose a number of different ways to organize and format them. Your goal is to create a document that is easy for the reader to understand and helpful for the work at hand.

Two factors determine what type of SOP to use:

- First, how many decisions will the user need to make during the procedure?
- Second, how many steps and substeps are in the procedure?

Routine procedures that are short and require few decisions can be written using the simple steps format.

Long procedures consisting of more than ten steps, with few decisions, should be written in hierarchical steps format or in a graphic format.

Procedures that require many decisions should be written in the form of a flowchart.

1.1.5.1. Simple Steps

Generally this format is used to describe a procedure with few decisions and few steps. In this case a simple set of steps is sufficient. The SOP will not contain much detail. A thorough training program would be necessary to make sure that new museum employees understand how to perform each step in the procedure. Unfortunately, this low level of detail still leaves a lot of room to interpret the procedure. This SOP could work in a situation where there are only a few employees working together.

1.1.5.2. Hierarchical Steps

The Hierarchical Steps Format allows the use of easy-to-read steps for experienced users while including more detailed substeps as well. Experienced users may only refer to the substeps when they need to, while beginners will use the detailed substeps to help them learn the procedure.

1.1.5.3. Graphic Procedures

When writing procedures for very long activities, managers should consider using a graphic format. The graphic format breaks long processes into shorter subprocesses that consist of only a few steps. Workers can learn several short subprocesses more easily than one long procedure. Another possibility for the graphic format is to use screenshots and diagrams to illustrate the procedure. Use these tools to design informative SOPs that combine helpful diagrams with

explanatory text. Diagrams truly are worth a thousand words, and they are helpful regardless of the literacy level or native language of a worker.

Many decisions?	More than 10 steps?	Best SOP format
No	No	Simple Steps
No	Yes	Hierarchical or Graphic
Yes	No	Flowchart
Yes	Yes	Flowchart

1.2. Process

This document gives detailed instructions to consistently perform the work, in a consistent and repeatable fashion.

When the process involves numerous steps, SOPs should be written to describe sub processes.

1.3. Writing Standard Operating Procedures

This procedure - *How to describe Museum Processes and Subprocesses* - provides a rule to format and structure a future SOP for Museum processes.

Keep the SOP's writing style simple and short. Information should be conveyed clearly and explicitly to remove any doubt as to what is required. Also, use a Flowchart to illustrate the process being described. In addition, follow the style guide used by your organization, e.g., font size and margins.

All SOPs must contain the following:

1.3.1. Header / Footer

The header/footer contains the SOP's title, page number and approval date.

1.3.2. Scope

The scope is to whom and what the document applies.

Example: This document applies to SOPs writing.

1.3.3. Objective

The SOP aims to harmonize the procedures carried out.

Example: This SOP sets formatting standards.

1.3.4. Procedure

The SOP describes the steps to perform the procedure.

1.3.5. Document formatting:

- Header/Footer
- Maintain style and consistency across documents to assist in their readability.
- State scope and objective at the beginning.
- Give a descriptive title.
- Illustrate the procedure by dividing it in small steps, described in one sentence.
- Avoid a long list of bulleted items (<12).

1.3.6. Documentation

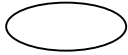
The SOP brings up all supplementary documents, and cross-references with other SOPs.

1.4. Flowchart

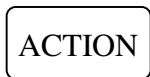
Flowcharts are simply a graphic way to present the logical steps in a decision-making process. A flowchart provides an easy-to-follow mechanism for walking an employee through a series of logical decisions and the steps that should be taken as a result. You should use the generally accepted symbols for flowcharts (ISO 5807:1985), which are as follows:



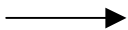
A circle represents a starting or ending point or a connector (labeled circle).



Ovals can also define starting or ending points.



A rectangle indicates the worker should perform an action of some sort.



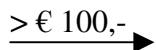
Unlabeled arrows between other symbols indicate the direction of flow.



Diamonds are the accepted symbol for a decision point. They must have two or more arrows leading away from them toward alternatives.



Decision (labeled) arrows lead away from a diamond and toward an appropriate action or



follow-up decisions.

At least two alternatives must lead from each decision diamond. Many times they will be yes and no, but they also could involve three or more choices. For example, if the insurance value of an object is more greater than € 100,-, you might have another option to follow, depending on the results.



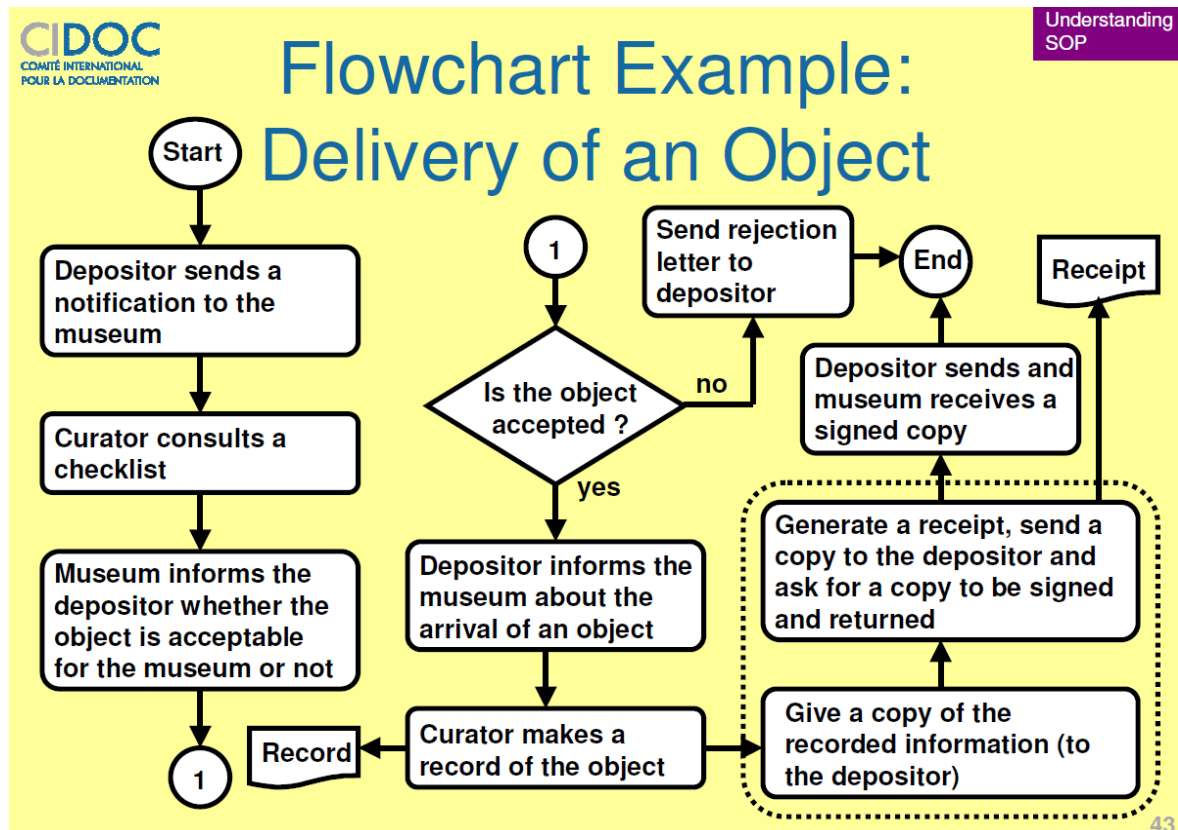
A rectangle with a ragged bottom edge indicates that a record or notation should be written down.

Regardless of the SOP format that you choose to use, there are a few elements of information that should be included with every SOP.

These include

- a clear and descriptive title;
- the name of the author or person responsible for the SOP;
- and the date on which the SOP or revision becomes effective.

Businesses that use many SOPs should adopt a logical numbering scheme for filing and to keep track of revisions. In addition, some SOPs should include lists of materials or tools needed to complete the job.



2. Processes

2.1. Introduction

A **business process** is a collection of related, structured activities or tasks that produce a specific service or product (serve a particular goal) for a particular customer. It often can be visualized with a flowchart as a sequence of activities with interleaving decision points or with a Process Matrix as a sequence of activities with relevance rules based on the data in the process.

Business processes comprise a set of sequential sub-processes or tasks, with alternative paths depending on certain conditions as applicable, performed to achieve a given objective or produce given outputs.

Business processes are designed to be operated by one or more business functional units, and emphasize the importance of the “process chain” rather than the individual units.¹

(www.wikipedia.org)

2.2. Objective

Scope of this document is to describe a procedure of a museum process.

What is the development strategy ?

2.2.1. Step 1)

Develop a Process Landscape which fits to the mission statement of a museum. Get a high level overview of all processes, policies and business rules that directly manage the strategic direction of the museum, the processes should be categorised and grouped.

2.2.2. Step 2)

Describe the processes from the Process Landscape (step 1) and formalize the descriptions.

Use a method as being found for the description of „*Standard Operating*

Procedures“ (SOPs): Wikipedia (access: 2012-05-06):

http://en.wikipedia.org/wiki/Standard_operating_procedure

[...] **Business and manufacturing practice**

„An **SOP** is a [*written document or*] instruction detailing all steps and activities of a **process** or **procedure**. [ISO 9001](#) essentially requires the documentation of all procedures used in any manufacturing process that could affect the quality of the product.“ [...]

2.2.3. Step 3)

Elaborate high level („coarse grained granularity²“) Business Process Models (BPMs) based on the process descriptions (step 2).

- Use a standard notation (preferably BPMN 2.0) for the development of BPMs. <http://www.bpmn.org/> (access: 2012-05-12)
- Especially in a co-operative environment: use a Web Modeling Tool and social software.

¹ http://en.wikipedia.org/wiki/Business_process, last visited 27.04.2012

² http://en.wikipedia.org/wiki/Service_Granularity_Principle (access: 2012-05-12)

2.2.4. Step 4)

Elaborate low level (detailed: „fine grained granularity³“) Business Process Models using low level BPMs (step 3).

- Take High Level BPMs as input and ensure that BPMN 2.0 is used.
- Generate Low Level BPMs by adding functionalities which enable the execution of the models using a BPMN engine.
- Implement and simulate the low level processes preferably using a professional BPMN Suite.

2.3. Format

Each process will be displayed in a process chain.

A **Process chain** (PC) is a sequence of subprocesses linked together.

2.4. Special Notation for Process Descriptions

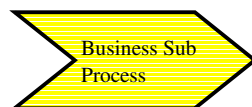
Used elements:

- The Goal or reason for the process
- Specific inputs
- Specific outputs
- Resources consumed
- Activities that are performed in some specific order
- Events that drive the process

2.4.1. The Business Process

A business process is a collection (sequence) of activities (sub processes) designed to produce a specific output. It implies a strong emphasis on how work is done within an organisation. A process is a specific ordering of work activities across time and place, with a beginning, an end, and clearly defined inputs and outputs: a structure for action.

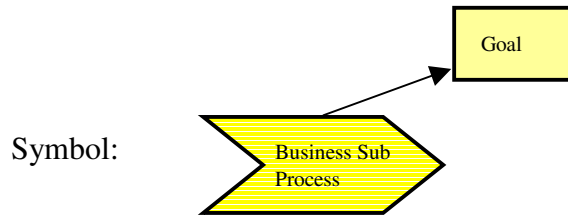
Symbol:



³ http://en.wikipedia.org/wiki/Service-oriented_modelling (access 2012-05-12)

2.4.2. Goals

A business sub process has some well defined goal. This is the reason the organization does this work, and should be defined in terms of the benefits this sub process has for the organization as a whole and in satisfying the business needs.

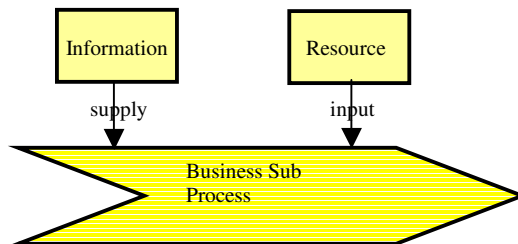


2.4.3. Inputs, Resources and Information

Business sub processes use information to tailor or complete their activities.

Information, unlike resources, is not consumed in the sub process – rather it is used as part of the transformation sub process. Information may come from external sources, from customers, from internal organisational units and may even be the product of other sub processes.

A **resource** is an **input** to a business sub process, and unlike information, is typically consumed during the processing.

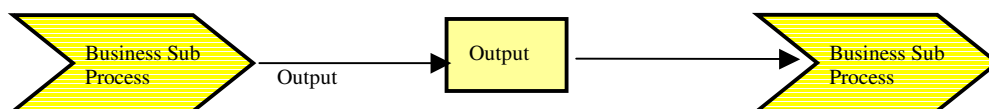


2.4.4. Outputs

A business sub process will typically produce one or more outputs of value to the business, either for internal use or to satisfy external requirements. An output may be a physical object (such as a report or invoice), a transformation of raw resources into a new arrangement (a daily schedule or roster) or an overall business result such as completing a customer order.

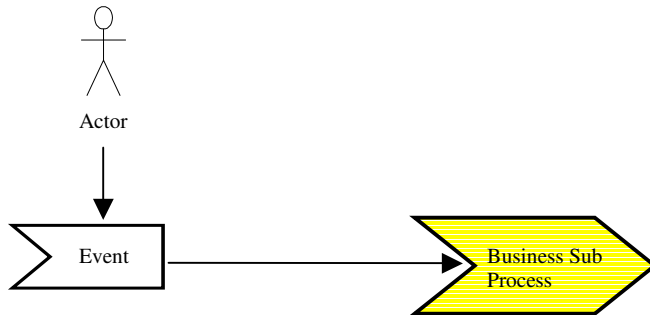
An output of one business sub process may feed into another sub process, either as a requested item or a trigger to initiate new activities.

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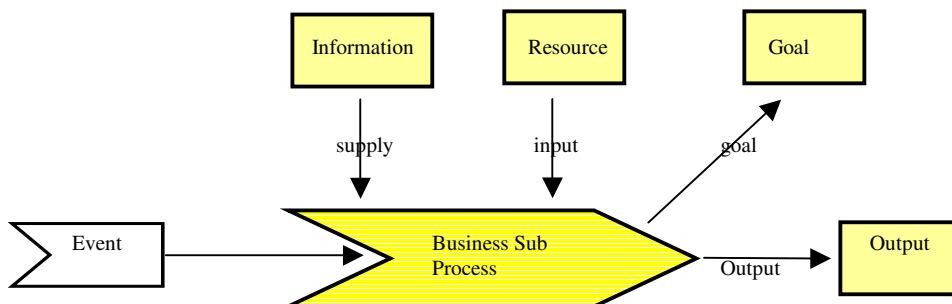
2.4.5. Events

An event is the receipt of an object, a deadline reached, a notification or some other trigger that initiates the business process. The event may be of the „real world“, consumed and transformed (e.g. a customer order) or simply act as a catalyst (e.g. a „time grain marker“).

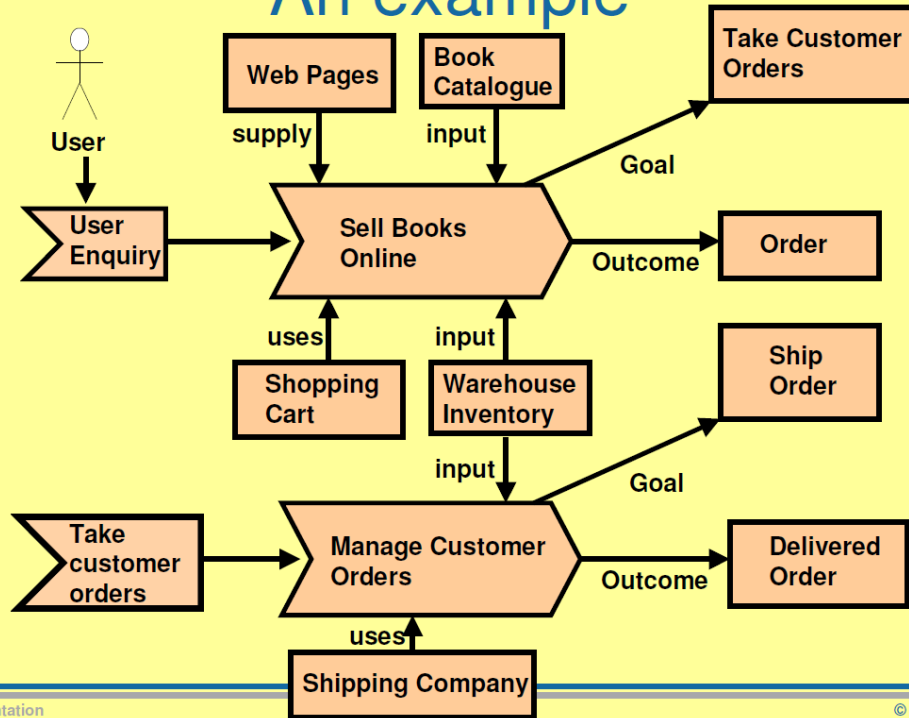


2.4.6. Putting it together

The diagram below illustrates how the various model elements may be grouped together to produce a coherent picture of a named business process. Included are the inputs, outputs, events, goals and other resources which are of significance.



An example



2.5. Business Process Management (BPM)

2.5.1. Definition Wikipedia

(Last visited: 2012-05-06) :

http://en.wikipedia.org/wiki/Business_process_management

•Business process management (BPM) is a holistic management approach focused on aligning all aspects of an organization with the wants and needs of clients. It promotes business effectiveness and efficiency while striving for innovation, flexibility, and integration with technology. BPM attempts to improve processes continuously. It can therefore be described as a "process optimization process." It is argued that BPM enables organizations to be more efficient, more effective and more capable of change than a functionally focused, traditional hierarchical management approach.

2.5.2. Basic definitions

(Last visited: 2012-05-07) :

<http://www.appian.com/bpmbasics/process-modeling-bpmn.jsp#bpmn>

2.5.2.1. Business Process Model Notation

The BPMN provides businesses with the capability of understanding their internal business procedures in a graphical notation and gives organizations the ability to communicate these procedures in a standard manner. Business Process Modeling Notation was developed by the Business Process Management Initiative to provide a process modeling notation that is understood by all process modelers, users, analysts, etc.
(maintained by OMG Object Management Group since 2005)

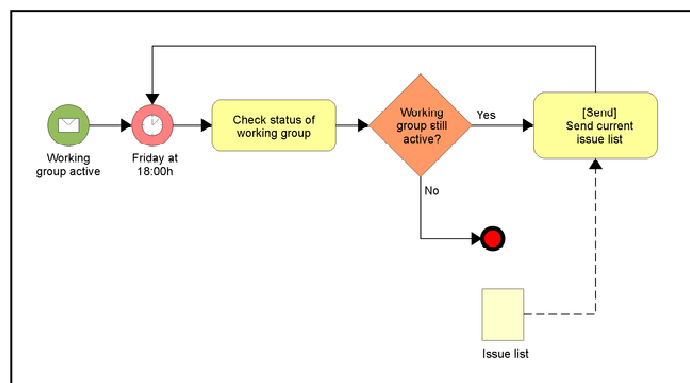
2.5.2.2. Business Process Diagram

A Business Process Diagram is a simple diagram, made up of a set of graphical elements, that depicts a business process. There are four primary elements of BPD:

- Flow Objects
- Connecting Objects
- Swimlanes
- Artifacts

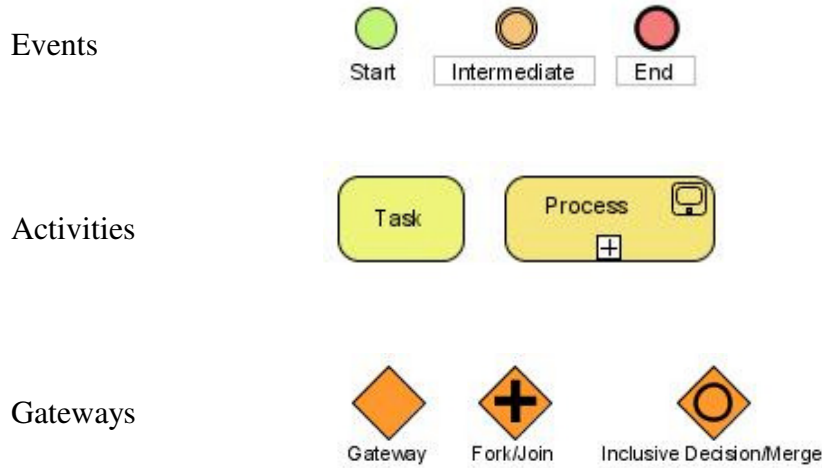
2.5.2.3. Process Model

BPMN defines a Business Process Model as a network of graphical objects. It includes flow objects and connecting objects that define the way of performance.



2.5.2.4. Flow Objects

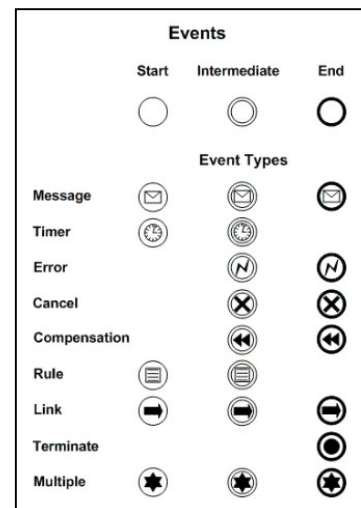
Flow Objects are shapes that represent the core elements of the Business Process Diagram (BPD), including:



Events

Events are anything that "happens" during the course of a business process. Events can have a cause, referred to as a Trigger, and/or an impact, referred to as a Result. An Event is represented by a circle in a Business Process Model. There are three types of Events based on when they occur in the flow of a process:

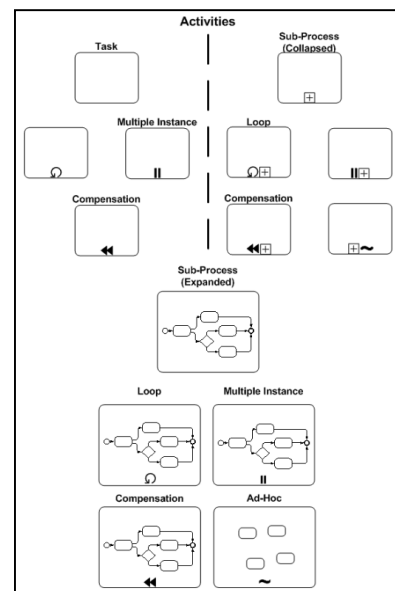
Start / Intermediate / End



Activities

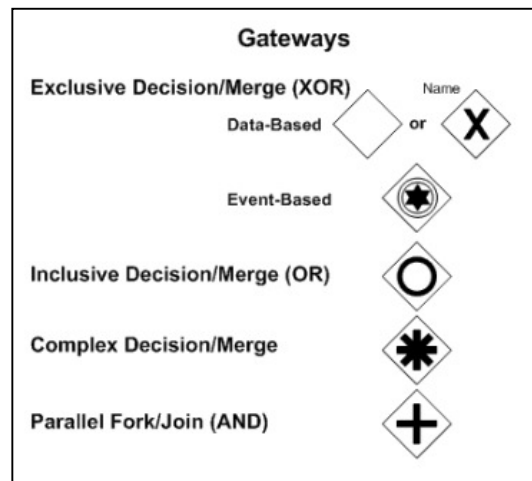
An activity is any work that is being performed in a process. An Activity is represented by a rounded-corner rectangle in a Business Process Model. There are two types of Activities:

- Tasks
- Sub-processes



Gateway

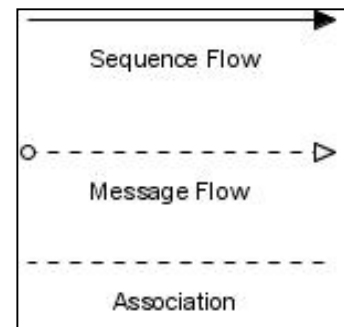
A Gateway is used to control the flow of a process. Gateways handle the forking, merging and joining of paths within a process. Gateways are represented by a diamond shape in a Business Process Model.



Connecting Objects

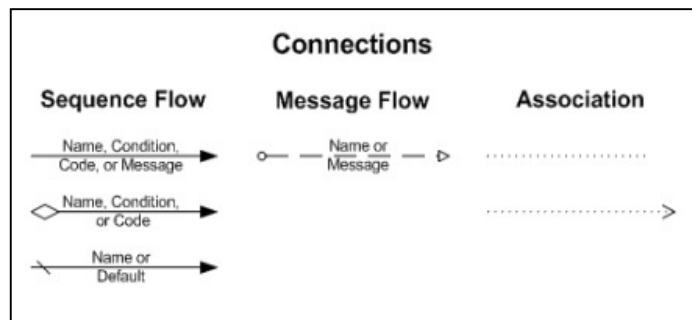
Flow Objects are associated with one another via Connecting Objects. There are three types of Connecting Objects:

- Sequence Flow
- Message Flow
- Association



Sequence Flow

Sequence Flows are used to show the order in which activities of a process will be performed. A Sequence Flow connection is represented with a solid line and a solid arrowhead in a Business Process Model.



Message Flow

Message Flows are used to show the flow of messages between process participants during a process. A Message Flow connection is represented with a dashed line and an open arrowhead in a Business Process Model.

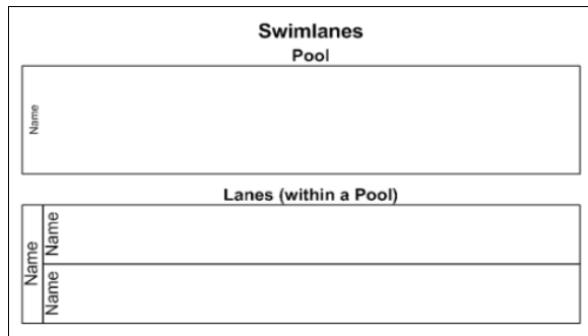
Association

An Association is used to show relationships between data, text and other artifacts and flow objects in a process. An Association is represented by a dotted line with a lined arrowhead in a Business Process Model

Swimlanes serve as a mechanism to organize activities and responsibilities in a process diagram. There are two objects used here, Pools and Lanes.

Pools

A Pool represents a participant in a process. Pools are used when a process has multiple participants or business entities. The activities in a Pool are a self-contained process. Sequence Flow cannot cross Pool lines.



Lanes

A Lane is a sub-partition within a Pool. Sequence Flow can cross the lines of a Lane. However, it is not accepted to have Message Flow crossing between objects in Lanes of the same pool.

Artifacts

Artifacts allow process designers to extend the basic BPMN notation to include additional information about the process in the process diagram. There are three types of Artifacts:

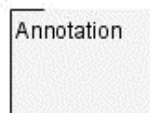
- Data Object



- Group



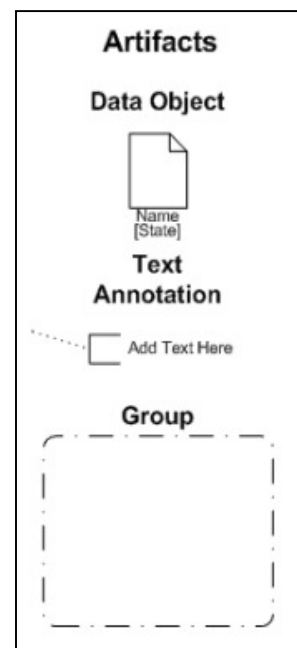
- Annotation



Data Objects are used to show how data is required or produced by activities in a process. Data Objects are represented by a picture of a piece of paper folded at the corner in a Business Process Model.

A **Group** is used to document the grouping of any type of process objects. Groupings can cross lanes as needed. Groupings are represented by a rounded rectangle with a dashed line in a Business Process Model.

Annotations can be used to add textual comments within a process diagram.



2.6. Process

The process landscape can be taken from SPECTRUM⁴ where 21 procedures (**bold**:main procedures) are defined:

P01 Pre-entry	P11 Risk management
P02 Object entry	P12 Insurance and indemnity management
P03 Loans in	P13 Valuation control
P04 Acquisition	P14 Audit
P05 Inventory control	P15 Rights management
P06 Location and movement control	P16 Use of collections
P07 Transport	P17 Object exit
P08 Cataloguing	P18 Loans out
P09 Object condition checking and technical assessment	P19 Loss and damage
P10 Conservation and collections care	P20 Deaccession and disposal
	P21 Retrospective documentation

As an example the target process to be modelled will be the „acquisition process“. This process can be derived from the description of different steps of the SPECTRUM procedures, eg (only some steps for demonstration used):

P04 acquisition:

Step 3: evaluate and authorise acquisitions

P02 object entry:

Step 3: prepare for the arrival of an object

Step 4: make record of the object

Step 5: check the condition and make a record

Step 6: give a copy of the recorded information

Step 7: send them a copy of the receipt

P09 condition check:

Step 4: prepare the area

Step ...

P...

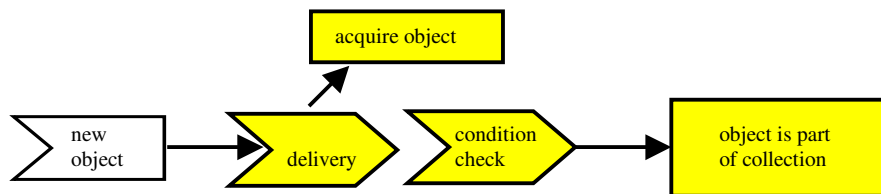
Also steps not included in SPECTRUM could be added as appropriate and necessary.

The "Acquisition Process" should be modelled as a chain of subprocesses.

⁴ <http://www.collectionslink.org.uk/programmes/spectrum> (access: 2012-05-12)

Steps 3, 4, 6, and 7 of P02 (object entry) can form a sub process called „delivery“
All steps of SPECTRUM procedure P09 (condition check) can form a sub process called „condition check“.

Using the „Special Notation for Process Descriptions“ [Chapter: „Standard Operating Procedure (SOP)“] the diagram for a sub process chain representing a simplified version of a acquisition process looks like this:



3. References

How to write a Standard Operating Procedure, Dan Tzur, 31 January 2005

Standard Operating Procedure - Guidebook, klariti.com, 17 October 2007

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