

Serialization style

Assignment.

You will have to go through a large number of pictures that represent how people constructed a process model. For every picture you will have to determine which serialization style was used during the modeling session. This document describes the modeling language that was used, how to interpret the pictures that each represent the model construction of one process model, and which serialization style did occur. The pictures are numbered and the styles are coded. You will get a form with the picture numbers, which you will have to complete with the style codes.

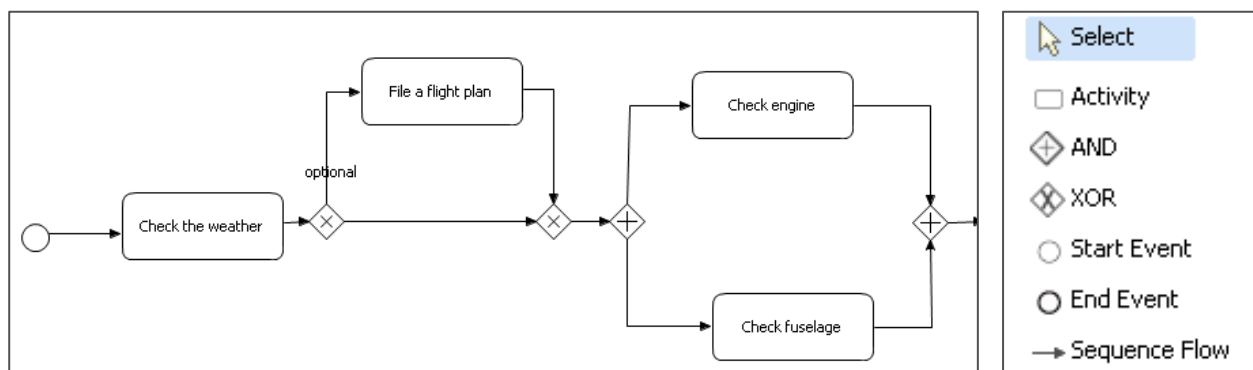
Thank you for your cooperation!

Jan Claes

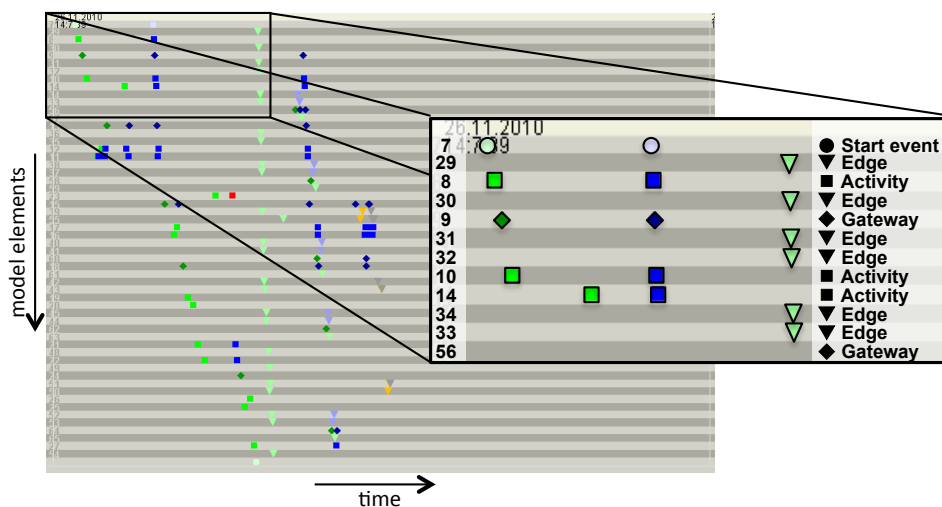
1. Business Process Model Notation

The modeling sessions were performed using a simplified modeling language inspired by BPMN.

- The start of the process is represented by a **start event**
- The end event(s) is/are represented by (an) **end event(s)**
- Every step in the process is represented by an **activity**
- A decision is modeled by an **XOR split and XOR join** gateway
- Parallel paths are modeled by an **AND split and AND join** gateway
- Order of activities and gateways is represented by **sequence flow** edges



2. PPMChart



The PPMChart represents every operation in the modeling tool during the construction of a single process model.

- The **line** of the dot represents the model element on which the operation was performed (every operation on the same model element is represented on this line)
- The **position** of the dot on the line represents the time when the operation occurred (the default width of a PPMChart is one hour)
- The **color** of the dot represents the type of operation (i.e., green for creation, blue for movement, red for deletion, orange for (re)naming, and grey for reconnection of edges)
- The **shape** of the dot represents the type of model element of the operation (i.e., circle for events, square for activity, diamond for gateways, triangle for edges)

■ CREATE_ACTIVITY	■ MOVE_ACTIVITY	■ DELETE_ACTIVITY	■ NAME_ACTIVITY
○ CREATE_START_EVENT	○ MOVE_START_EVENT	○ DELETE_START_EVENT	○ RENAME_ACTIVITY
○ CREATE_END_EVENT	○ MOVE_END_EVENT	○ DELETE-END_EVENT	○ NAME_EDGE
◆ CREATE_AND	◆ MOVE_AND	◆ DELETE_AND	◆ RENAME_EDGE
◆ CREATE_XOR	◆ MOVE_XOR	◆ DELETE_XOR	◆ RECONNECT_EDGE
▽ CREATE_EDGE		▽ DELETE_EDGE	

The lines are sorted according to the order of the model element it represents in the process model. The first line represents the start event, while the last line mostly represents (one of) the end event(s).

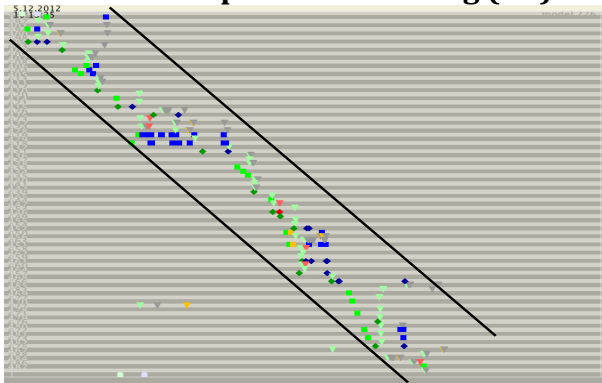
In the highlight of the picture at the top of this page, element 7 is the start event, element 8 is some activity. Element 29 is an edge represented between line 7 and 8, which means that the edge connects the start event with the activity.

Gateway 9 is followed by 2 activities (elements 10 and 14), which are each connected to the gateway. Therefore gateway 9 is followed by 2 lines with operations of edges, then 2 line of activities, 2 lines of edges again, and finally a (join) gateway on line 56.

Furthermore it can be noticed that first the start event, gateway and two activities were created, then these elements were moved almost simultaneously. Only later on the edges that connect these elements were created.

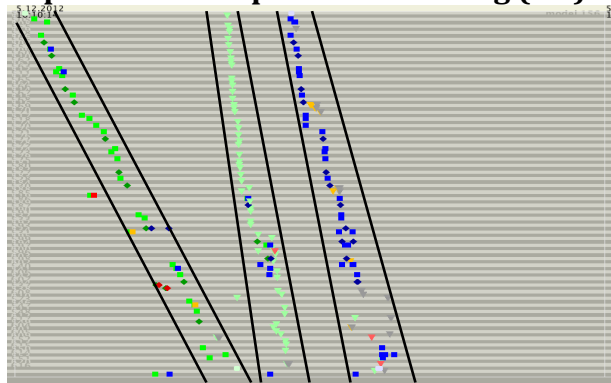
3. Serialization styles

Flow-oriented process modeling (FO)



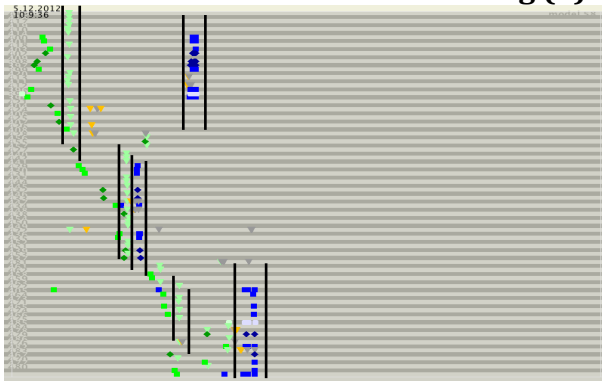
Working on the model part by part according to the order of elements in the process model. Once a part is finished, it is hardly touched anymore (no operations further on the right of the early lines, hence the diagonal zone of operations)

Aspect-oriented process modeling (AO)



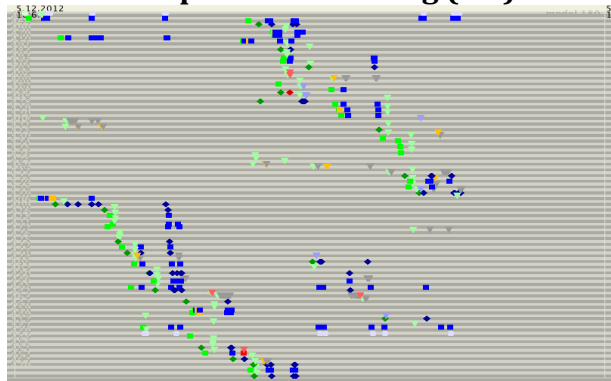
Working on the model aspect by aspect. For example first creating all activities and gateways (content), then connecting them with edges (structure), and later on working on lay-out and labeling (format). The aspects can differ from chart to chart though.

Combination of FO and AO modeling (C)



Working on the model part by part, mostly according to the order of elements in the process model (diagonal zone of particularly the green dots). For each part different aspects were considered.

Undirected process modeling (UD)



When it seems impossible to identify a pattern in the chart, it is called undirected. It seems like the operations in the chart are almost randomly positioned.

Uncategorized (UC)

When none of the patterns can be identified, you can mark the chart as uncategorized.

This means it would not classify for FO, AO, C or HPF, but at the same time it is hard to label it UD either. There seems to be some structured approach, but it is just not one of the 4 mentioned above.

Obviously, it should be avoided to classify charts as uncategorized if possible.

Please be careful to not mix up UD and UC.