

BPMN - BUSINESS PROCESS MODEL AND NOTATION

CSC100 Introduction to programming in C/C++ (Spring 2023)

Marcus Birkenkrahe

April 12, 2023

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1 README

- In this section of the course, we go beyond simple statements and turn to program flow and evaluation of logical conditions
- This section follows chapter 3 in Davenport/Vine (2015) and chapters 4 and 5 in King (2008)
- Practice workbooks, input files and PDF solution files in [GitHub](#)

2 Process models

- ☒ Understand what a process manager (software) is and does
- ☒ Learn the basics of Business Process Model and Notation (BPMN)
- ☒ Learn how to create simple models in BPMN
- ☒ Apply modeling skills to creating pseudocode models
- ☒ Adding Pseudocode/BPMN models to future programming assignments will give you bonus points (5 extra points per assignment)

3 Overview

- Flowcharts are popular among computing analysts and programmers
- Flowcharts are a special case of **process models**
- Process modeling is a key 21st century skill, because **process** is the central paradigm of modern work organization
- Rather than use flowcharts, we use BPMN - Business Process Model and Notation - see figure 1 below for an overview of the whole language (you can get this poster at SAP Signavio).

4 SAP Signavio

- SAP Signavio is a state-of-the-art process modeling environment
- It includes process mining and workflow management tools. The figure 2 below shows the app dashboard.
- ☒ Register in my Signavio workspace if you haven't done it yet
- ☒ Use the link in Schoology to register

5 Points to remember

- Every model needs a pool = process owner
- Conditions become gateways

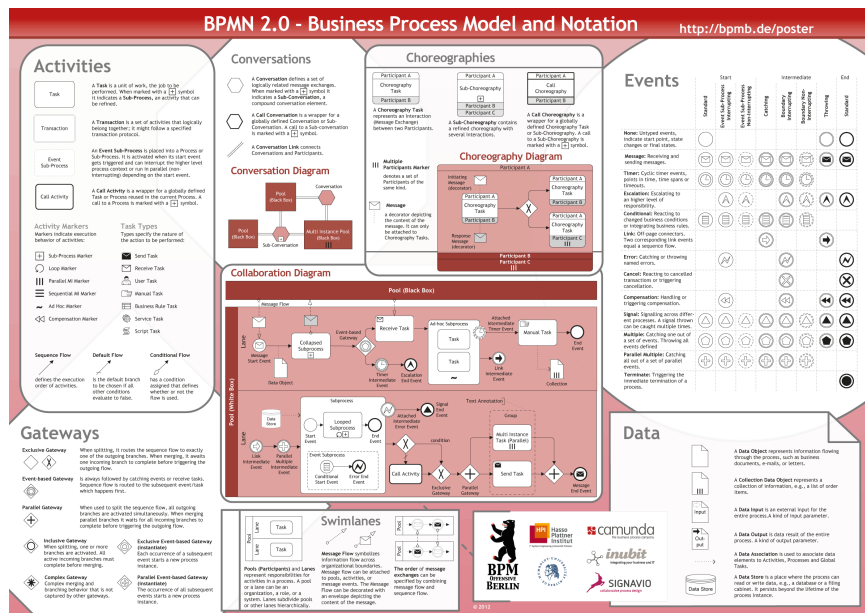


Figure 1: (Free) BPMN 2.0 poster from SAP Signavio

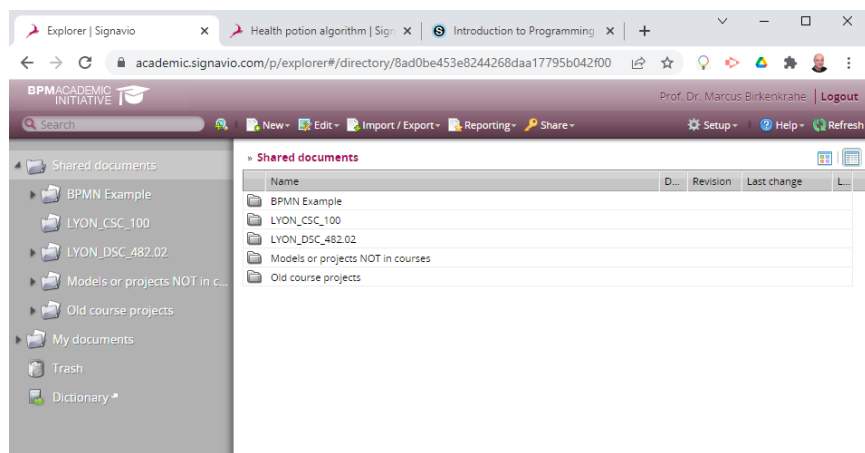


Figure 2: SAP Signavio dashboard / explorer

- Use active sentences for tasks
- When the flow is split, it must be rejoined
- All elements must be named
- Do not change the size of elements
- All elements can be "overloaded"

6 BPMN elements

- Roles (pools, lanes, participants)
- Tasks (things to do)
- Events (status)
- Flow (between tasks or events)
- Gateways (decision points, condition check)

7 Let's practice

Download the [raw] Org-mode file `bpmn.org` from GitHub:

```
wget tinyurl.com/58mw8wuc -O bpmn.org -o log
file bpmn.org
```

Download the [raw] image file `battle.png` from GitHub

```
wget tinyurl.com/2s3f3t9c -O battle.png -o log
file battle.png
```

The new `file` command provides file type information. It should tell you that `bpmn.org` is a `text`, and that `battle.png` is a `PNG` file.

Now open the file `bpmn.org` in Emacs.

8 References

- Davenport/Vine (2015) C Programming for the Absolute Beginner (3ed). Cengage Learning.
- GVSUmath (Aug 10, 2012). Proving Logical Equivalences without Truth Tables [video]. URL: youtu.be/iPbLzl2kMHA.
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