Generating Descriptions in Polish Language for BPMN Business Process Models

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Outline

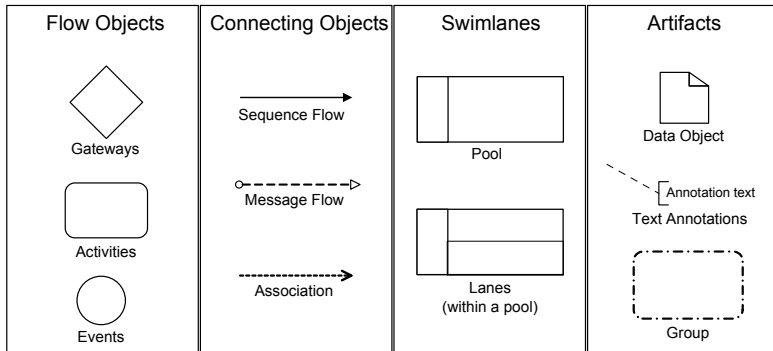# Business Process Models

What is a Business Process?

A **collection** of related, structured **tasks** that **produce** a specific **product** (or service) for a particular customer.

What is a Business Process Model?

Business Process Model defines the ways in which **operations** are carried out to accomplish the intended **goals**.

Core Set of BPMN Diagram Elements

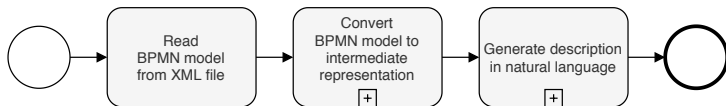| Flow Objects	Connecting Objects	Swimlanes	Artifacts
Gateways	Sequence Flow	Pool	Data Object
Activities	Message Flow	Lanes (within a pool)	Annotation text Text Annotations
Events	Association		Group

Motivation

Goal

- Generate a textual representation of business process models that store companies' knowledge.
- Human-readable natural language description, so that the user can be guided by it as effectively as using the original BPMN model.
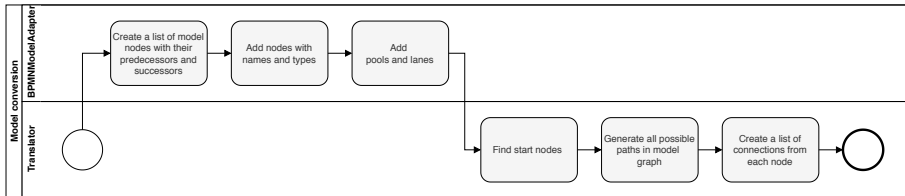
Scope of applications

- Natural language description may be easier for domain specialists, especially for alternative of model validation or guidance for business executives.
- Textual representation in natural language may also be useful in testing and improving tools which use textual process description, e.g. ModelJudge.
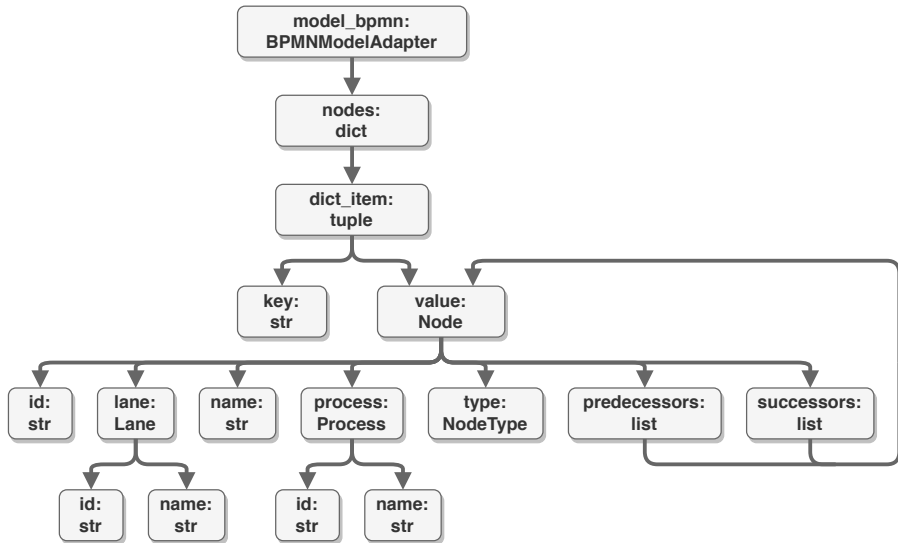
General process of
generating the description
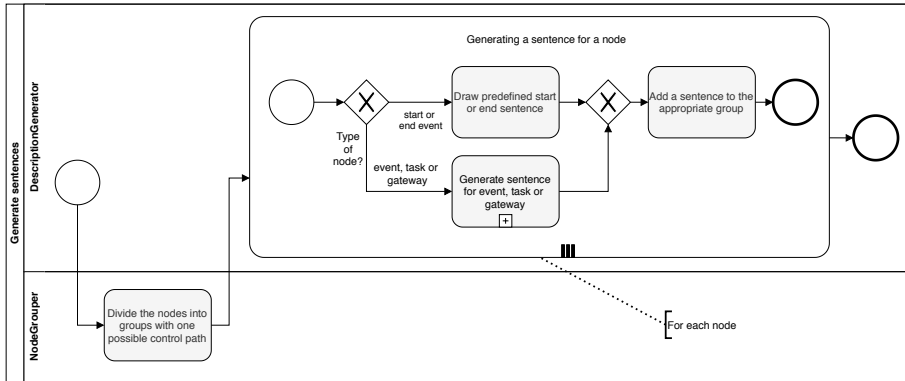
Model conversion
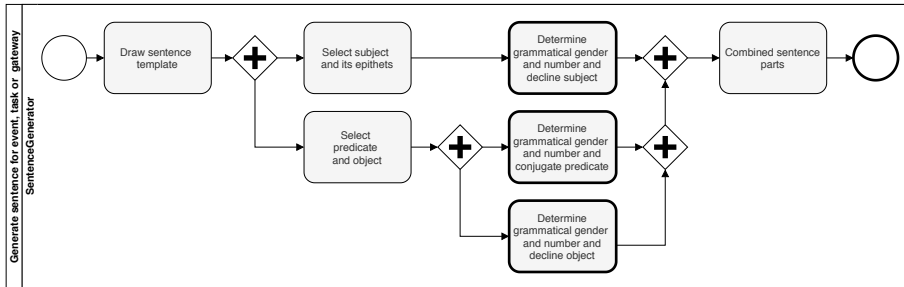# to intermediate representation

BPMN model structure

Generating description algorithm

Generating sentences
for the algorithm

Evaluation

In order to assess the generated description, we created a survey. Every item of survey was rated using 5 element Likert's scale, with:

1 = *I agree the least*, and

5 = *I agree the most*.

The survey concerned four aspects of the provided texts, namely:

- Ease of understanding.
- Explicitness.
- Linguistic correctness.
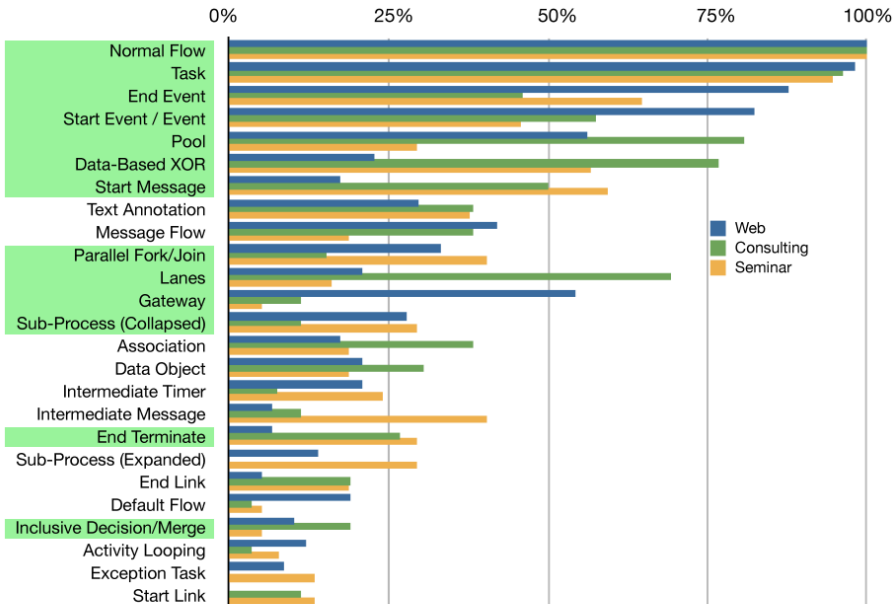- Quality of the vocabulary.

Evaluation

Table 1: Survey results.

Descriptions	Ease of understanding		Explicitness		Linguistic correctness		Quality of the vocabulary	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Graphical (BPMN)	4.02	0.91	-	-	-	-	-	-
Generated by our algorithm	4.12	0.93	4.44	0.78	3.25	1.15	2	0.98
Written by volunteers	3.98	0.89	3.39	1.19	4.46	0.65	3.76	0.83

Table 2: Statistical analysis for first and second example.

Descriptions	Ease of understanding		Explicitness		Linguistic correctness		Quality of the vocabulary	
	First	Second	First	Second	First	Second	First	Second
p value	-	-	.767	.000	.351	.000	.000	.000

BPMN coverage

Conclusions and Future Work

Original contribution

The first description generator for business process models in Polish language.

The proposed algorithm can help in reducing the risk of making a mistake when preparing descriptions and significantly reduce the time needed for the task.

Future Work

- extend the approach in order to take advantage of more advanced BPMN elements of current standard
- improve the clarity and quality of generated descriptions
- add support for other languages similar to Polish

The End

Thank you for your attention!
Any questions?

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