

From Text to Visual BPMN Process Models: Design and Evaluation

BPMN Sketch Miner

A web-based tool for rapidly sketching graphical Business Processes using BPMN.

<https://www.bpmn-sketch-miner.ai/>

The input is a textual process description based on a textual DSL

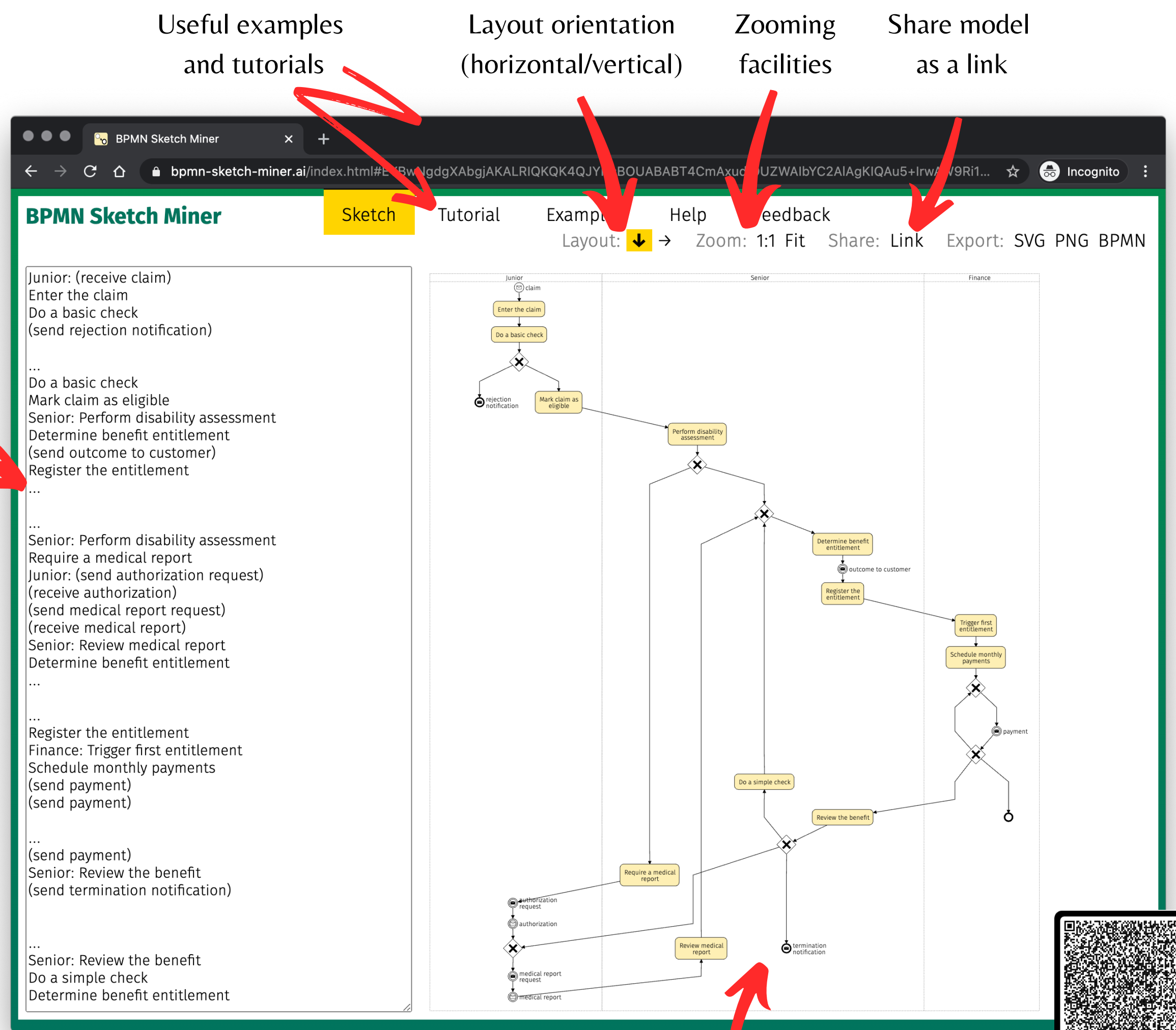
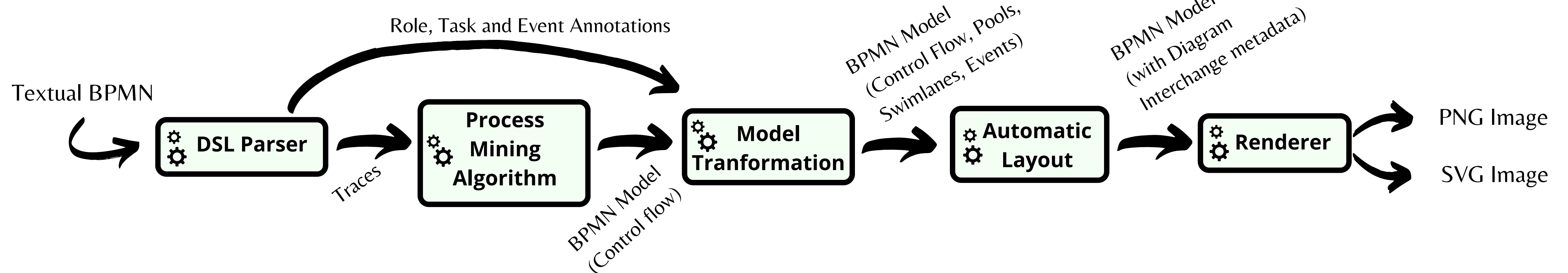
DSL Grammar

```

<text> ::= (<trace>'EOL')+'EOF' ;
<trace> ::= <dots>(<line>'EOL'<dots>)+ ;
<dots> ::= ['...' 'EOL'] ;
<line> ::= <parallel>|<annotation>|<comment> ;
<comment> ::= '///' (any character until EOL)* ;
<annotation> ::= '///'<label> ;
<parallel> ::= <element>(''|<element>)* ;
<element> ::= [<role>] (<task>|<event>|<XOR label>) ;
<role> ::= <label>':' ;
<XOR label> ::= <label>'?' ;
<task> ::= [<ttype> ]<label> ;
<event> ::= '(' [<etype> ]<label> ')' ;
<ttype> ::= ('send' | 'receive' | 'user' | 'manual' | 'service' | 'script' | 'rule') ;
<etype> ::= ('start' | 'finish' | 'timer' | 'send' | 'receive' | 'publish' | 'notify' | 'error' | 'escalate' | 'terminate') ;
<label> ::= any valid BPMN element label
    
```

- ✓ Minimal input
- ✓ Does not require knowledge about the BPMN notation
- ✓ Designed to be close to natural language

Model Generation and Transformation Pipeline



Live graphical output (can be exported as: svg, png, bpmn)

BPMN Sketch Miner Evaluation

BPMN Learners

- 21 participants
- 74% managed to finish the modelling task in less than 1h30.
- An average of correctness of 87%.
- They all agree with the fact that the generated visual model was helpful for them to understand the flow.

BPMN Users in industry

- 9 participants
- The majority agrees they can type faster than they can visually model BPMN diagrams
- All agree with the learnability both of the DSL and the tool.
- 56% found the DSL expressiveness sufficient for modelling their processes.

Users Satisfaction

