Tutorial 2 – Load an event log and synthesize a 1-safe Petri net

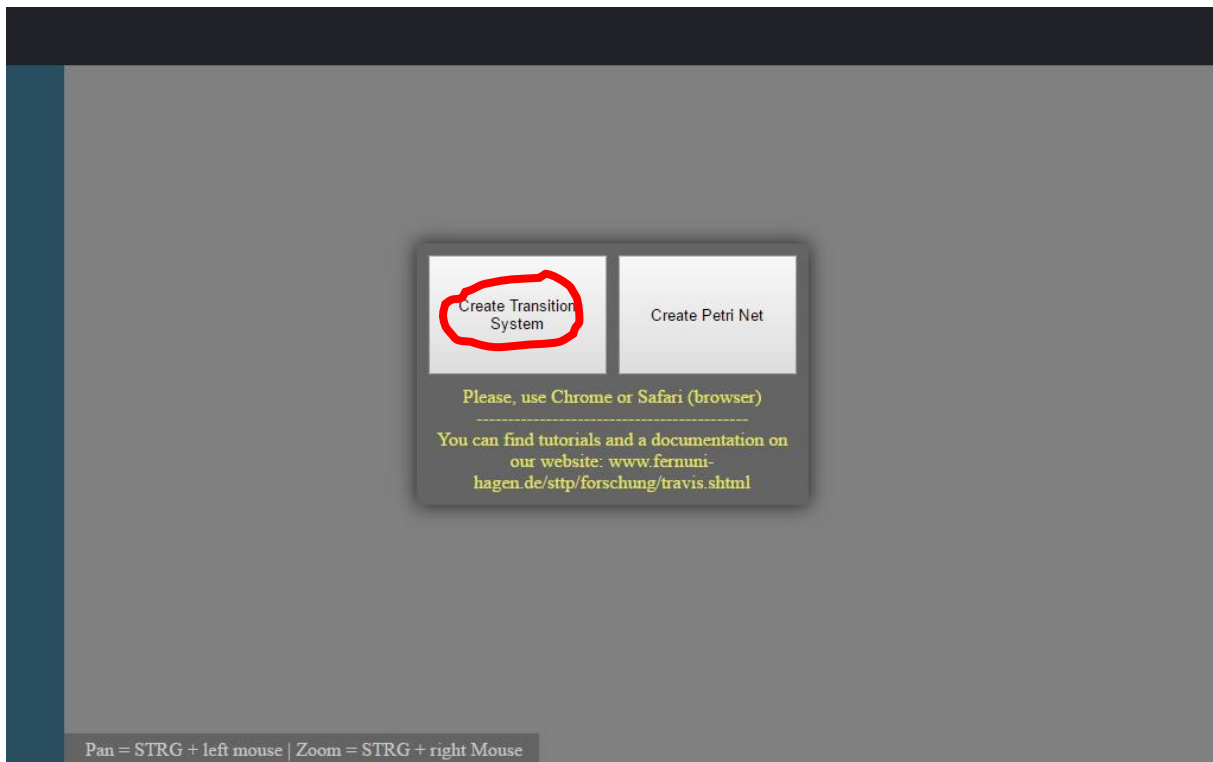In this tutorial, we will load an example event log from an XES file, synthesize a 1-safe Petri net and generate a neat place for this net.

Step 1

Start *travis* via: http://www.fernuni-hagen.de/sttp/travis/travis.html.

Step 2

From the start window, choose "Create Transition System" to create a new empty transition system.

Step 3

We are now in the transition system editor. We will load the example event log from an XES file. You can get it from our website: http://www.fernuni-hagen.de/sttp/forschung/travis.
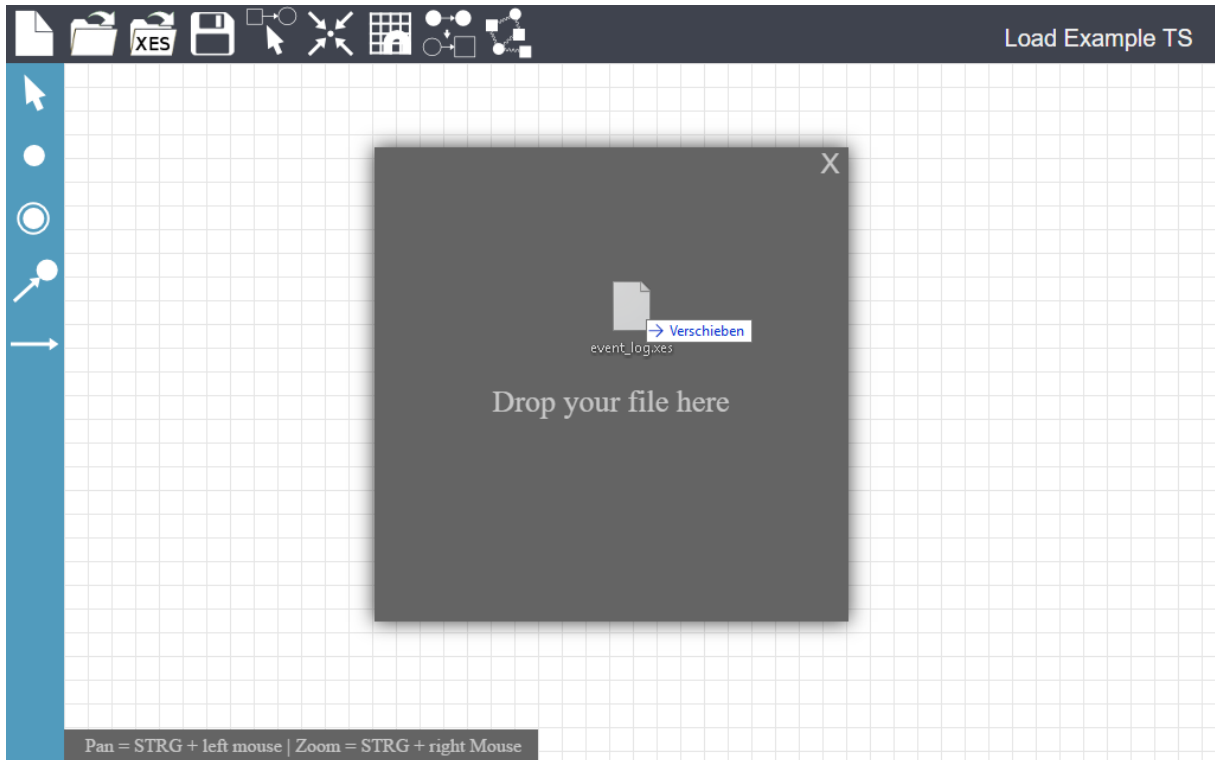
Download the file "Event log – Advertisement Agency Process …".

Step 4

Now, we want to load the saved XES-file. Click on the "load a fog file …" button in the upper toolbar.
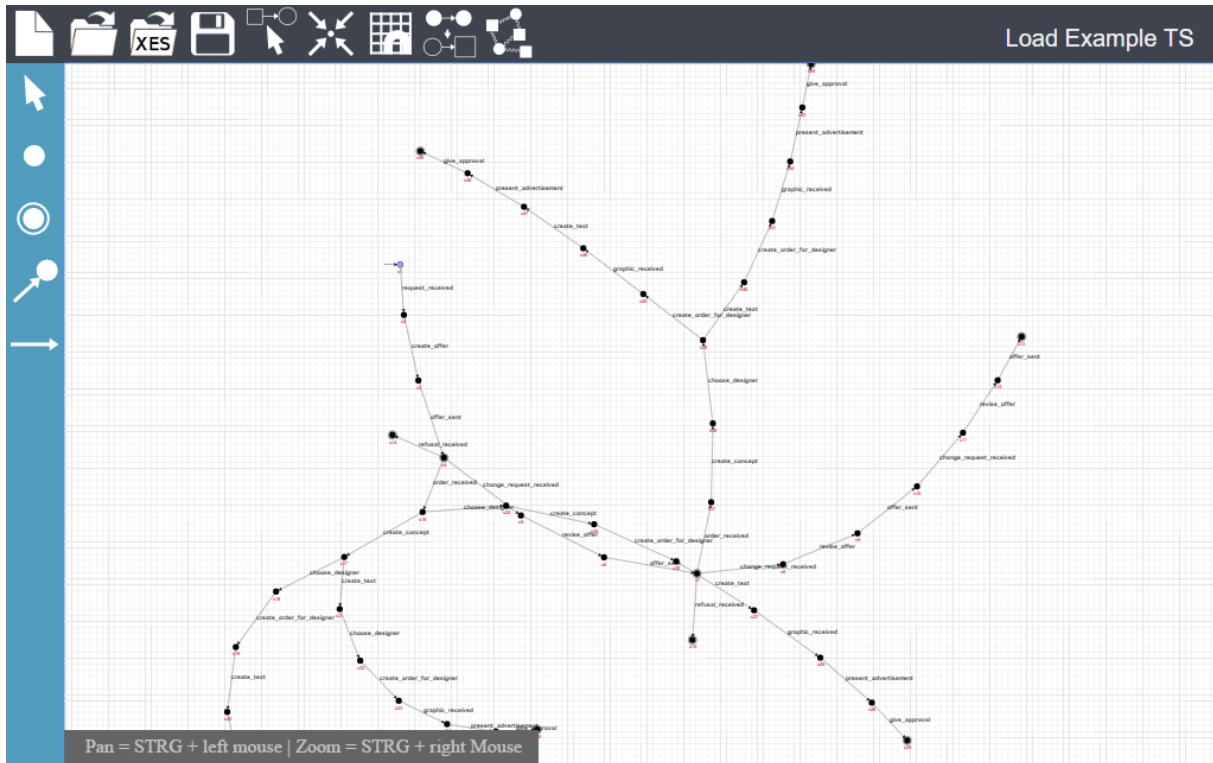

You see a "Drop your file here" popup window. Just drag and drop the file from your computer into this popup window in the browser.

Step 5

You will see, that automatically a transition system is generated. When you zoom out or move the editor canvas, you can see all the traces (prefixes are glued together) of the event log. At the end of each trace, there is a final state.


Step 6

Now, we would like to synthesize a 1-safe Petri net from this transition system. To synthesize a net, click on the "synthesize a k-bounded Petri net"-button.


This will open the options dialog for the synthesis algorithm. By default, the bound is set to one. Just click on the "Synthesize Petri Net"-button to start the synthesis procedure.

The net includes three final states: after "offer_sent", after "refusel_received" and after "give_approval". Tutorial 1 describes how to inspect the final states of a Petri net. For a more detailed description of the example, we refer the reader to our paper (travis – An Online Tool for the Synthesis and Analysis of Petri Nets with Final States).
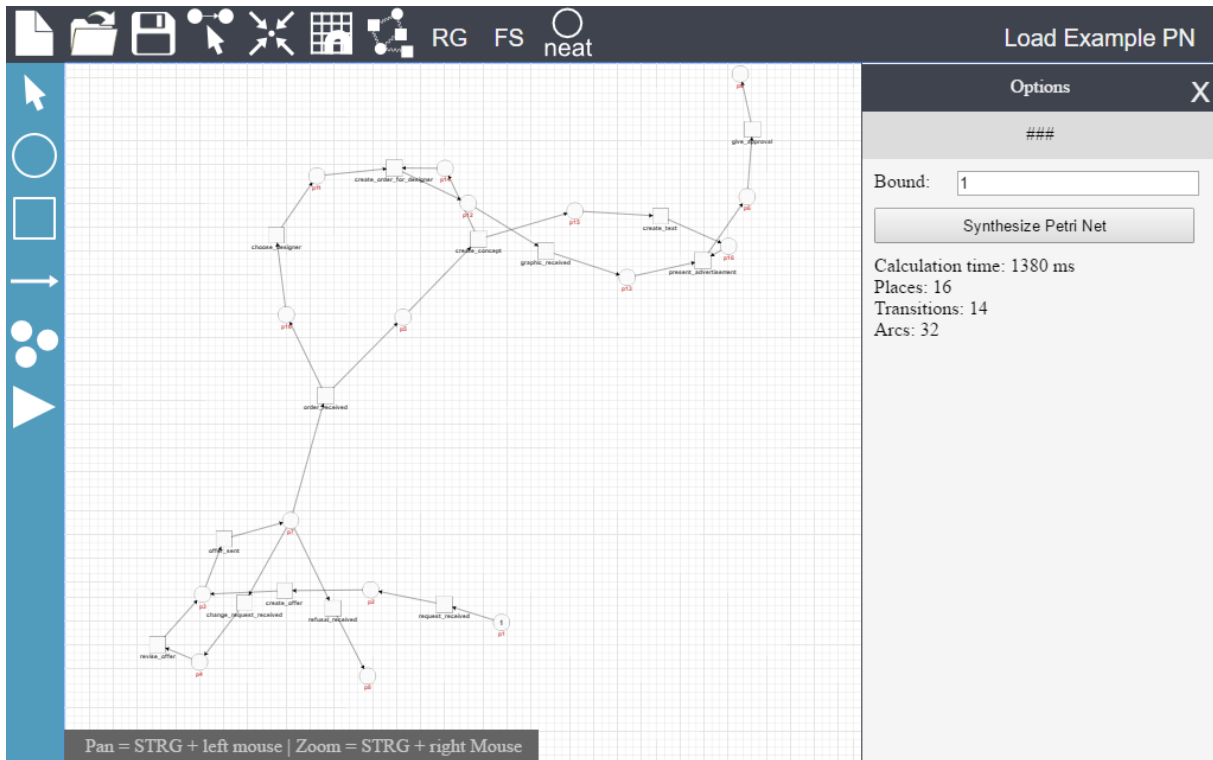
Step 8

At the moment, travis does not include an appropriate layout algorithm, but it is easy to move the places the transition to get a better overview of the synthesized net.
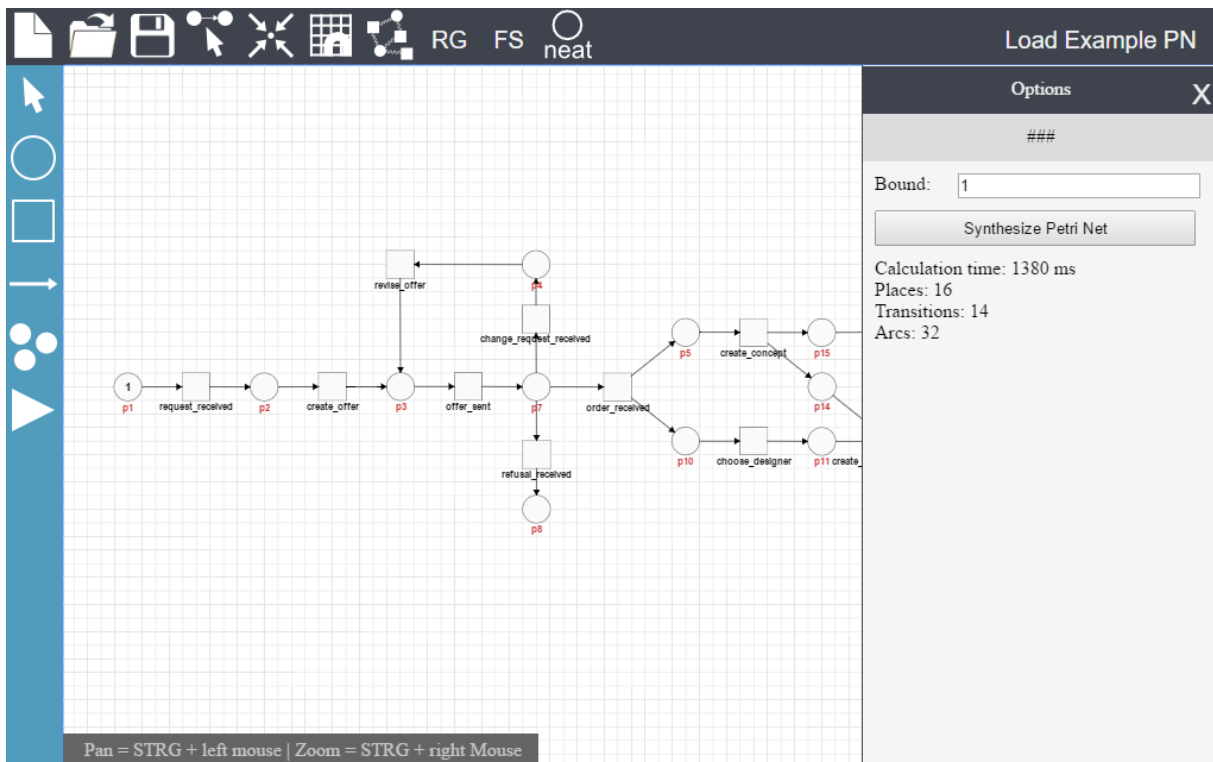
Step 9

Now, we would like to generate a neat place for this net. Just click on the "neat"-button in the upper toolbar and a neat place will be generated and added to the Petri net. If the neat place has a "bad" position, you can just move it around by dragging it in the editor. When you hover the mouse over the neat place, you see that whenever the neat place holds exactly one token, the Petri net is in a final state.
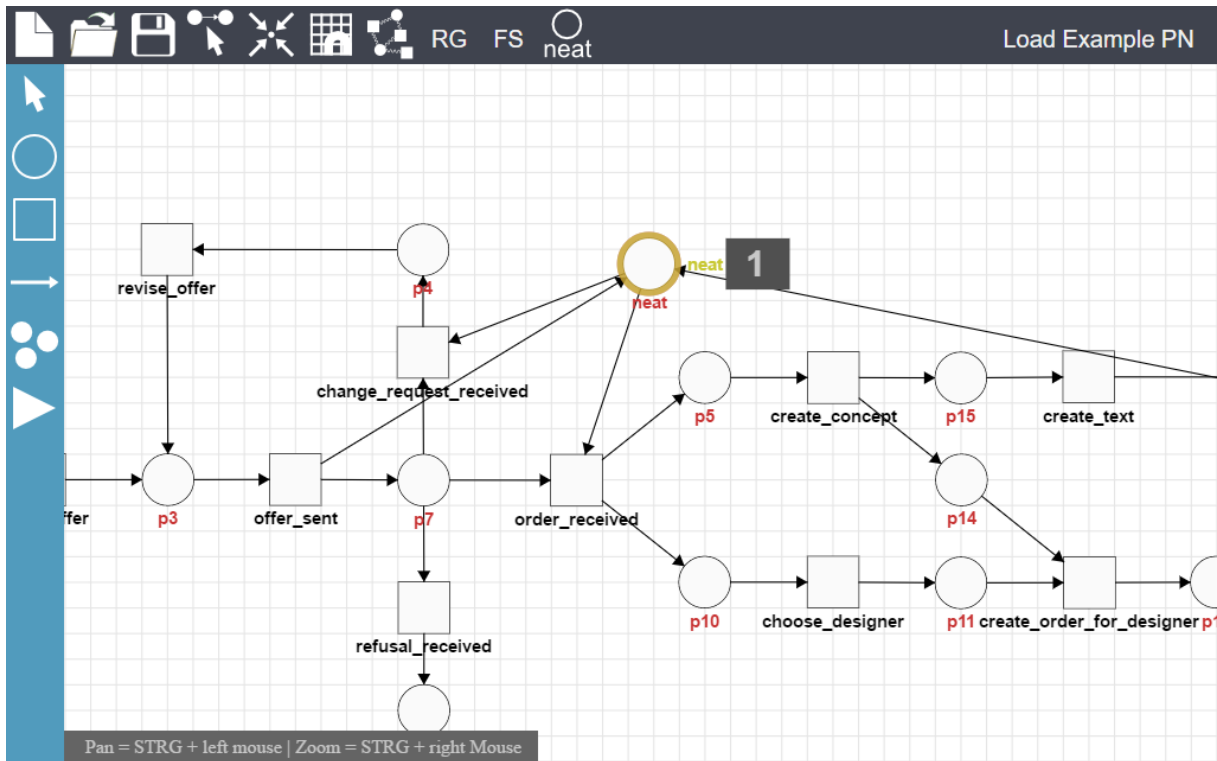
Step 10

We have loaded an event log from an XES-file, we synthesized a 1-safe Petri net and we generated a neat place for this net.

Of course, you can play around with the synthesized net using the "token game"-button on the bottom of the side toolbar (looks like a play button). Just left-click on an enabled transition to fire it. With a right-click, you can do a reverse firing.