Human-like artificial creatures

10. Virtual storytelling

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Virtual storytelling

- A storytelling / a drama by means of virtual reality
  - 3D/pseudo 3D visualisation
  - embodied human-like agents
  - interactive/non-interactive
- Narrative structure
  - emergent (The Sims)
  - a pre-given story structure
- Problem
  - to keep the story in the line with a narrative structure
- Solution
  - prescripted HTN plans [Cavazza, 2002; FearNot!]
  - Beat manager [Mateas, 2002]
  - joint-behaviour [Mateas, 2002]

demo Cavazza

Authoring architecture

Story manager

e.g. Petri Nets

Virtual world
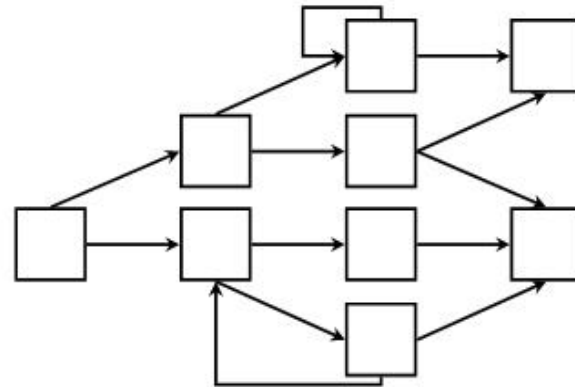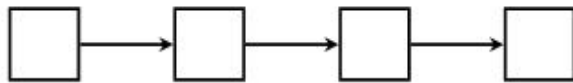
e.g. If-then rules

reactive planning
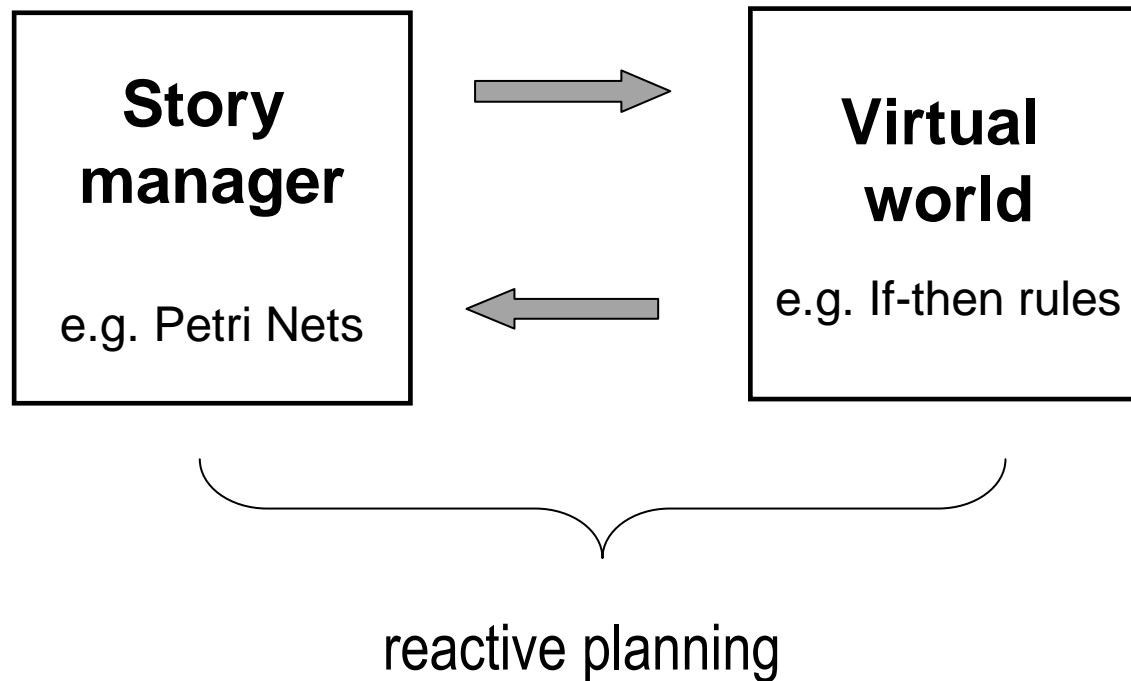
General requirements - scripting

- The story plots to be **branching**

- The episodes to can happen in **parallel**

- The episodes to be triggered by various initial conditions depending on the time, state etc.

- The technique for specification of the plots to be **intuitive** enough for a non-IT expert.

# State-machines

- parallelism?

Virtual storytelling

- a one-act strongly interactive drama 15 minutes long
- a virtual married couple and their friend (a player)
- agents act according to a pre-scripted story-line
  - scripts are chosen according to context at a given simulation time in order to keep the narrative line
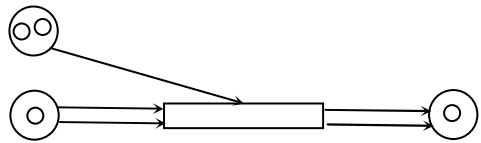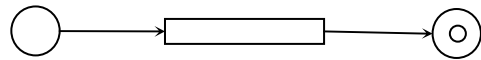- their behaviour can be synchronized (joint-actions)
- they talk in English
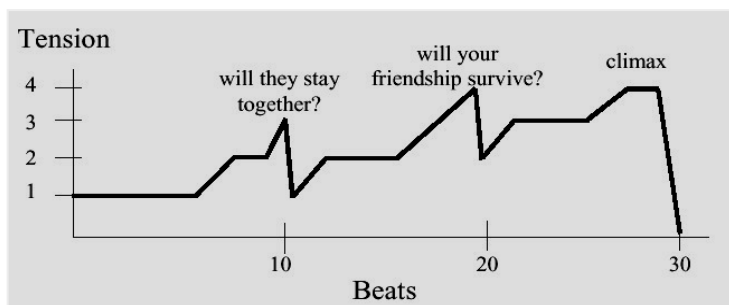
[Mateas and Stern, 2002]

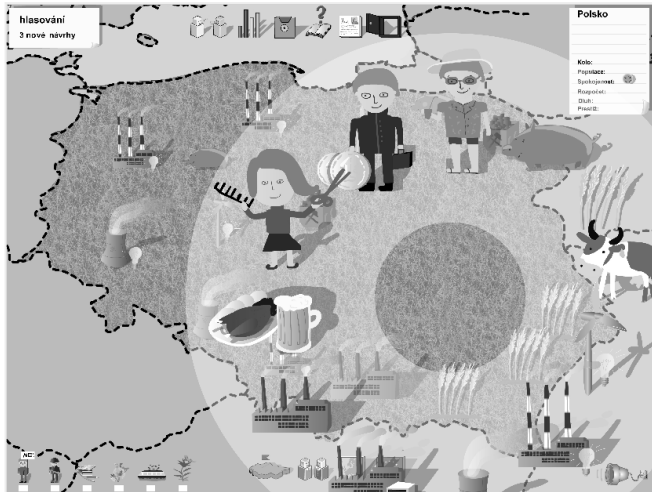# Our solution: Petri Nets
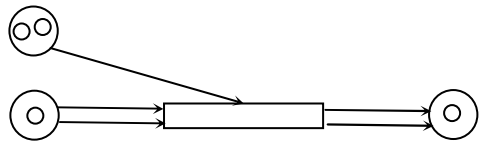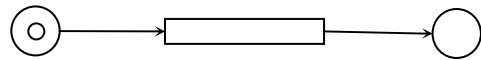
- places
- tokens
- actions
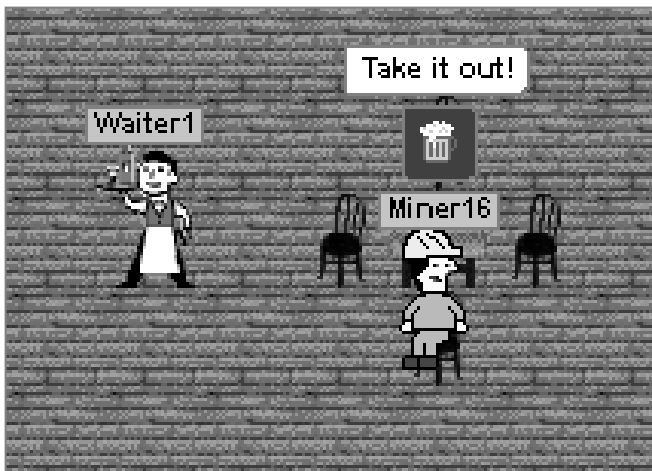- triggers

Our solution: Petri Nets

- places
- tokens
- actions
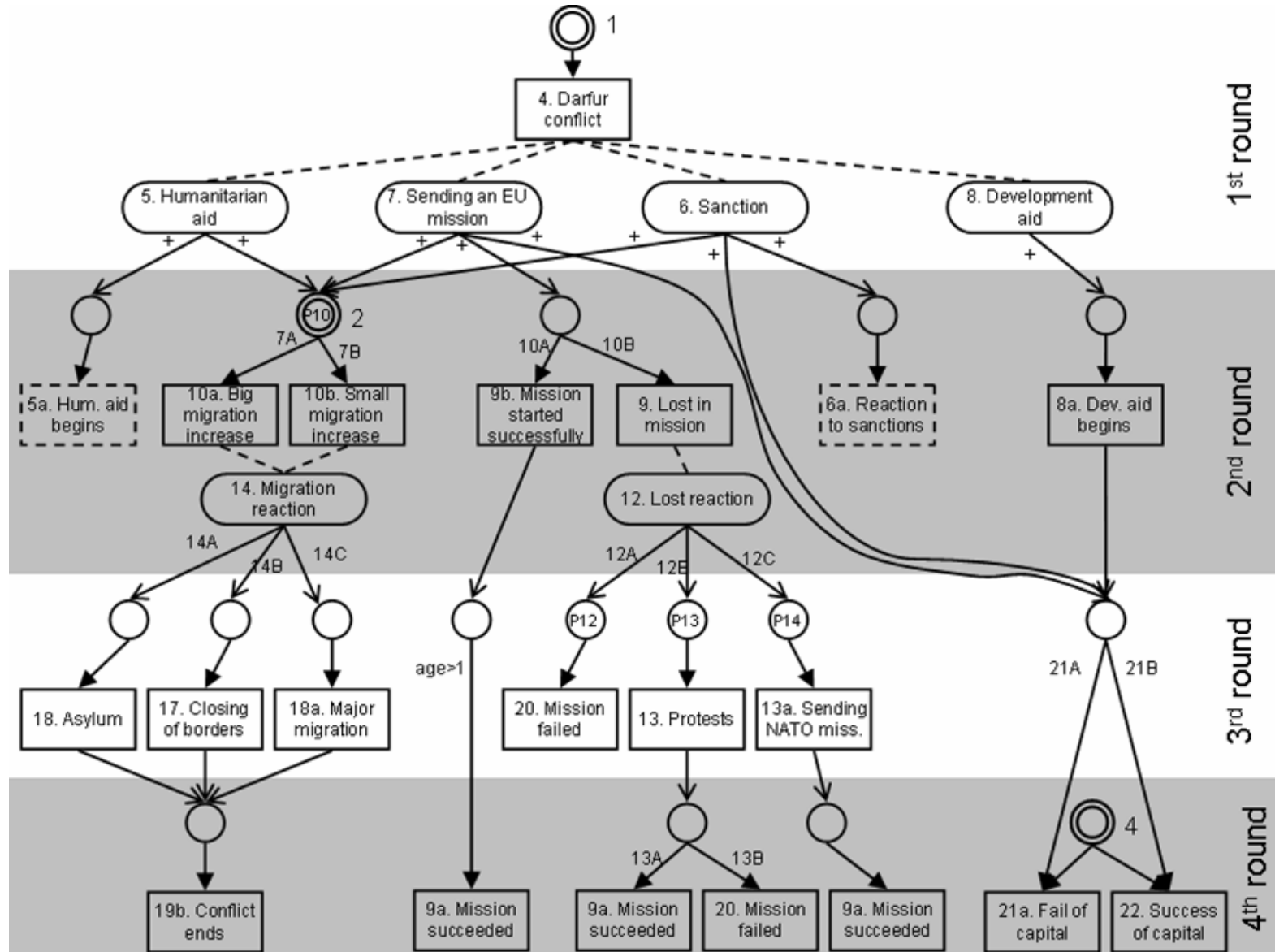- triggers

Petri Nets – example

Europe 2045

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Petri Nets – example: Europe 2045

End.

References

Virtual storytelling

1. Cavazza, M., Charles, F., Mead, S. J. Planning Characters' Behaviour in Interactive Storytelling. In: *The Journal of Visualization and Computer Animation*; 13 (2002)

2. Mateas, M.: *Interactive Drama, Art and Artificial Intelligence.* Ph.D. Dissertation. Department of Computer Science, Carnegie Mellon University (2002)

   http://www.quvu.net/interactivestory.net/

3. Brom et al.: Petri Nets for Game Plots in Serious Games. In: AISBJ, 2008 (in press)

see also Ruth Aylett web page & FearNot!