

# *When the Storyteller is a Computer*

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# A traditional storyteller



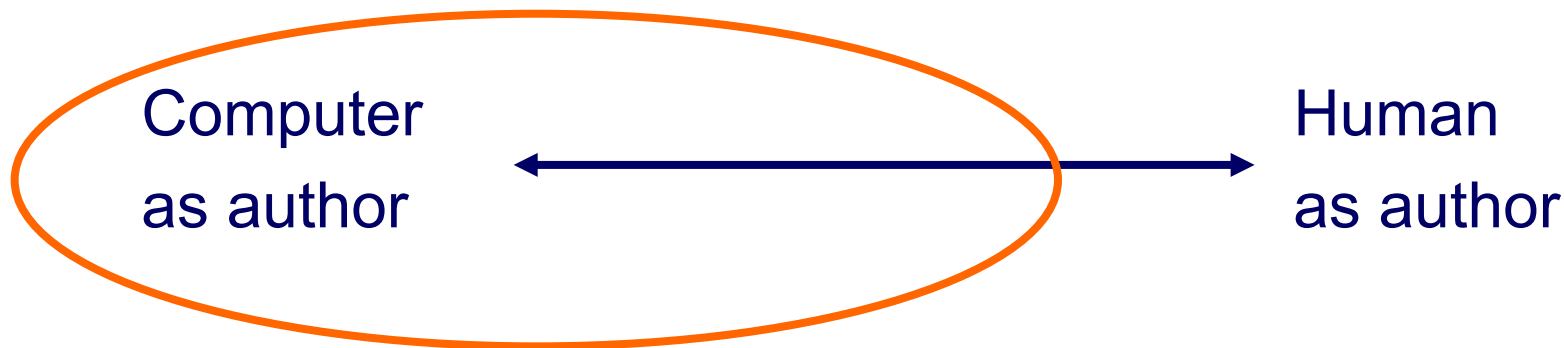
- Oral tradition, “telling stories by the campfire”
- Nowadays more media are available to tell stories
- This includes *digital* media



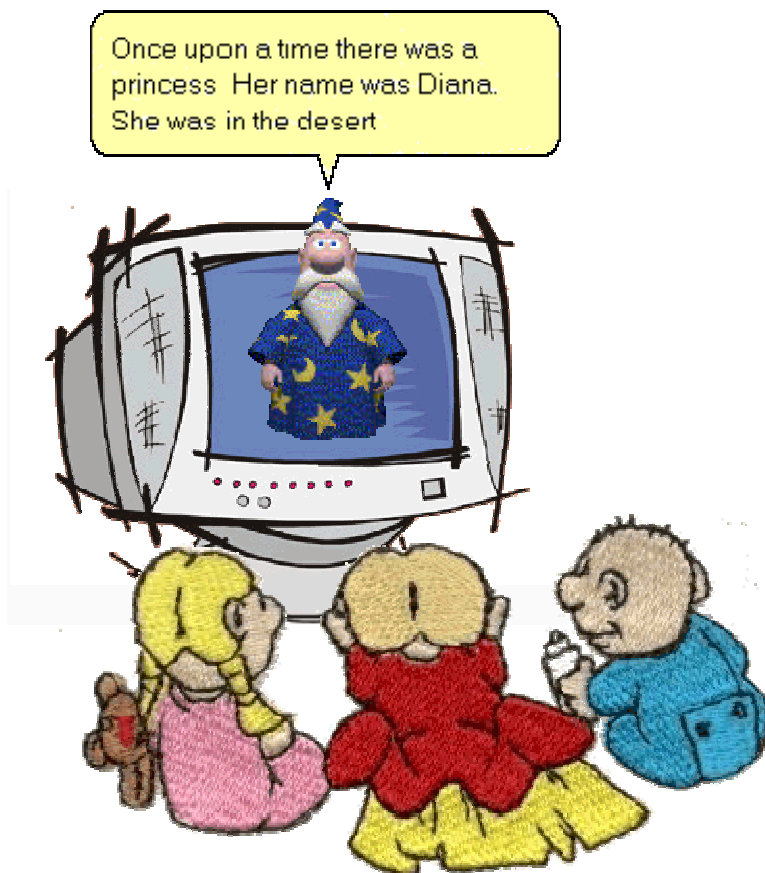
# Digital Storytelling



Not just “using digital media to create stories”  
but **storytelling by the computer**, either on its own or  
with varying degrees of human involvement



# Storytelling Computer



- This is just one form of digital storytelling
- Different forms of *interactive* storytelling are also possible

# Forms of Interaction



User roles:

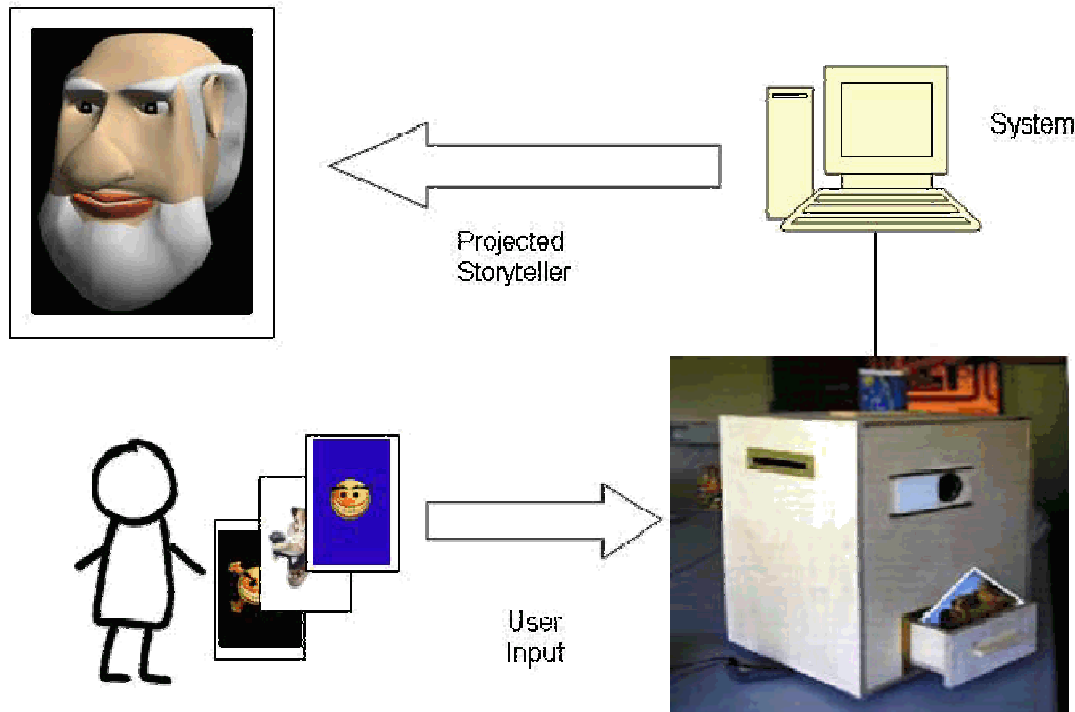
- Audience (feedback, requests)
- Director / controller (third person)
- Character / player (first person)
- Author

# Applications



- Entertainment
- Education
- Cultural heritage
- Group building
- Simulation and training
- Decision making
- ...

# Papous (INESC, Portugal)



- Users as audience can indicate preference for functions (Propp), moods, characters, and scenes

(Picture from Silva et al., AISB'04)

# FearNot! (VICTEC EU project)



- Anti-bullying education
- Users are “invisible friends” giving advice





# TEATRIX (INESC, Portugal)



- Children create stories by controlling the characters in a virtual environment
- Director agent offers guidance and makes children reflect



# Façade (Mateas & Stern, 2005)



- User as player in Interactive Drama
- The user visits two old friends and gets caught up in their marriage crisis...



downloadable at [www.interactivestory.net](http://www.interactivestory.net)

# GEIST (ZGDV Darmstadt)



- Augmented reality tour of historic Heidelberg
- Virtual characters tell stories about the locations
- Adapted to available time and route taken by the user



(Picture from Braun, WSCG'03)

# MRE (USC California)



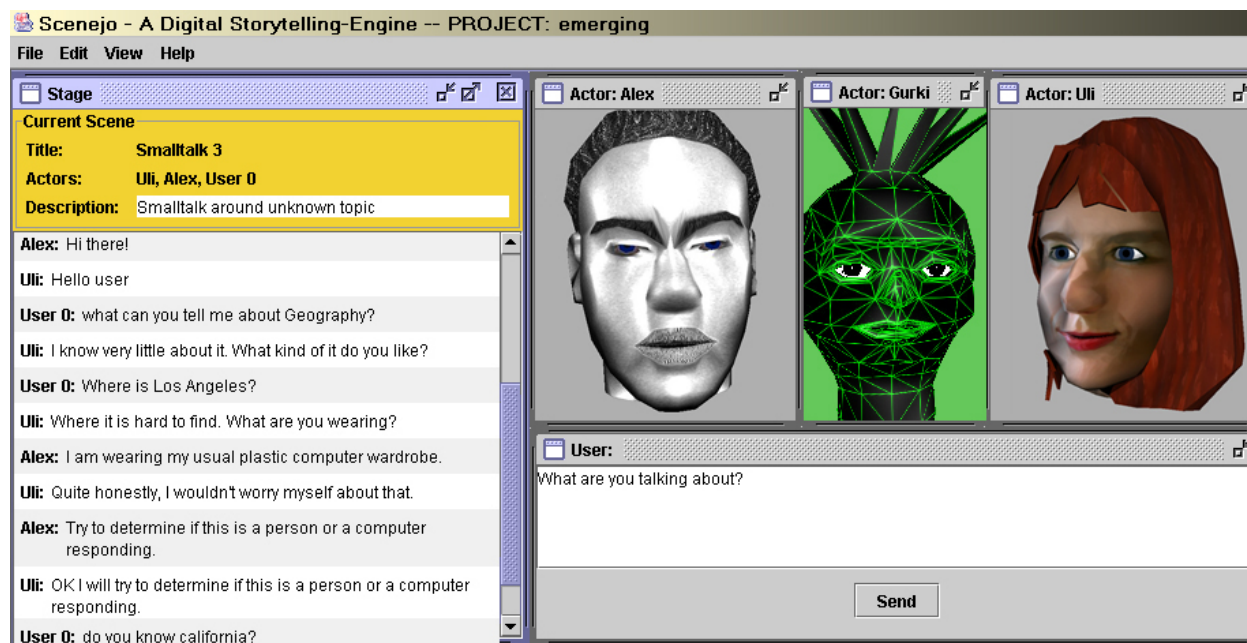
- Mission Rehearsal Exercise
- User as player (protagonist) / decision maker



# Scenejo (Spierling et al., Germany)



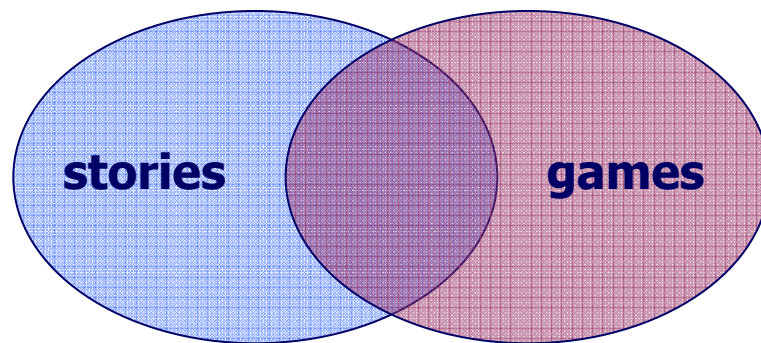
- Story authoring tool
- Stories are conversations between agents



# Intermezzo: Story vs Game



- Game: user always active
- Story: user may be more or less passive

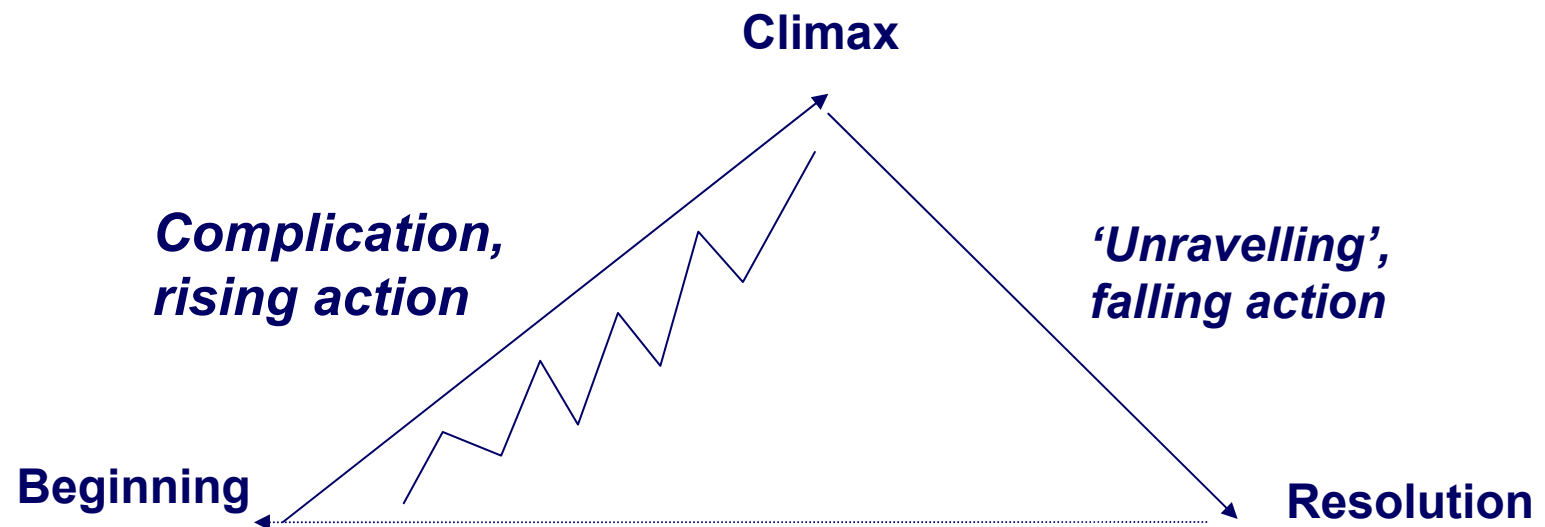


- Game: skills, competition
- Story: content / message, experience

# Story structure



- More than a chronological sequence of events
- “Sense of completeness”





# Story requirements



- Story must be engaging
  - Recognition and identification
  - Conflict, tension, suspense, unexpectedness, surprise, ...
- Good stories make the user *feel* (“Did it make you cry?” Murray 2005) and *reflect*

Of course, what makes a story *good* depends on the application.



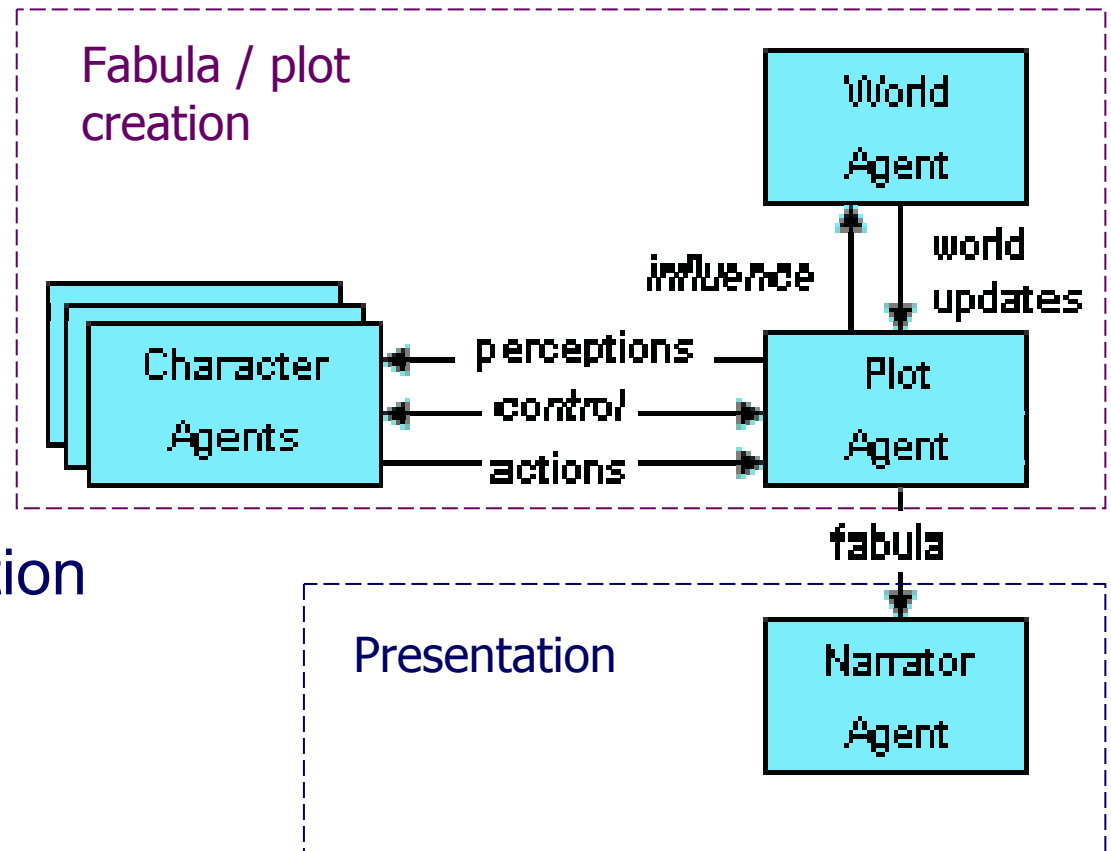
# The Virtual Storyteller



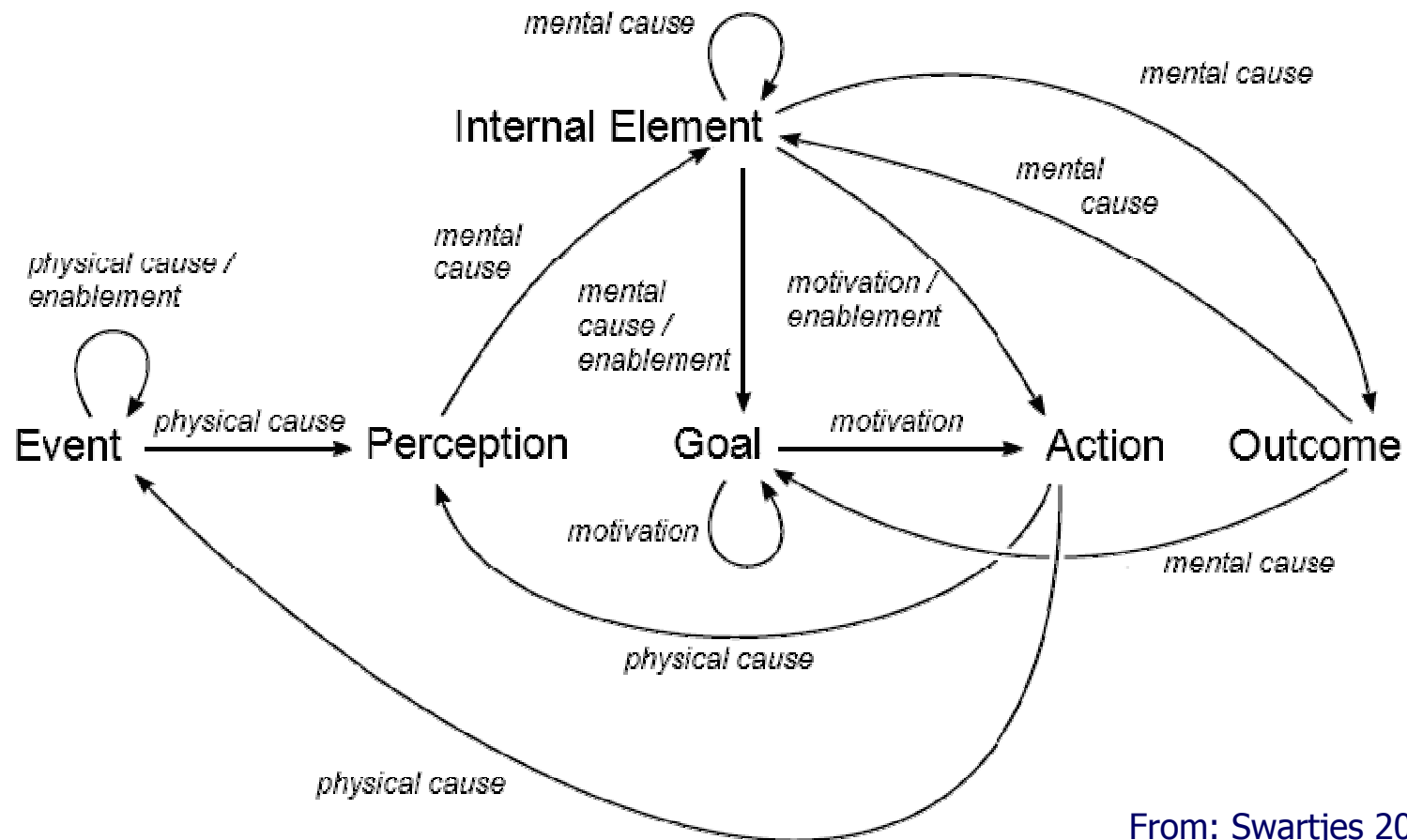
Multi-agent  
system, currently  
still non-interactive

Levels:

- Fabula / plot creation
- Presentation
  - language + speech
  - visualisation

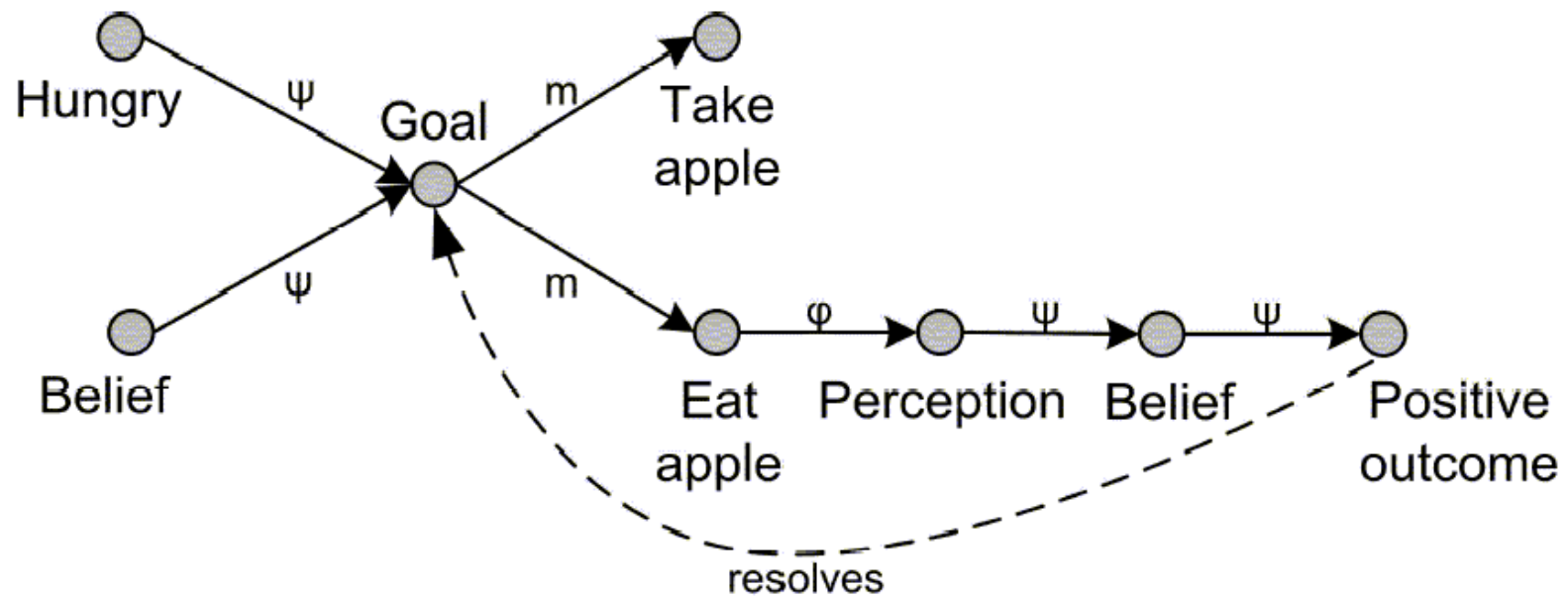


# Fabula structure



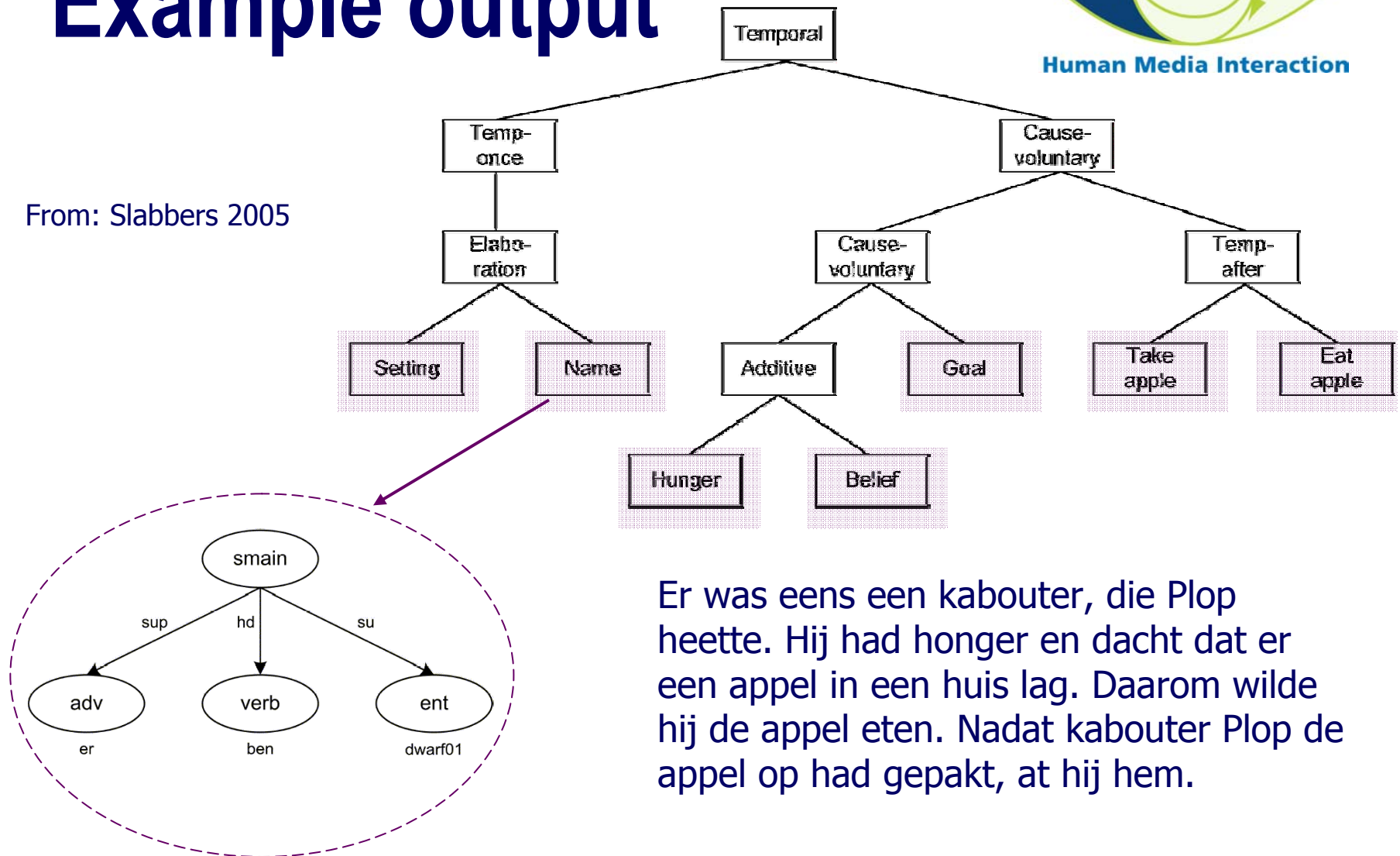
From: Swartjes 2005

# Example fabula



# Example output

From: Slabbers 2005



# Challenges



- Plot versus character
- Flexibility / creativity
- Interactivity
- Believable characters
- Authoring tools

# Plot versus Character



- Character-driven stories ‘emerge’ from autonomous characters’ actions
- BUT this does not necessarily lead to a well-structured or interesting story
- A scripted plot provides strong structure but no character autonomy
- Common solution: ‘drama manager’

# Managing the drama

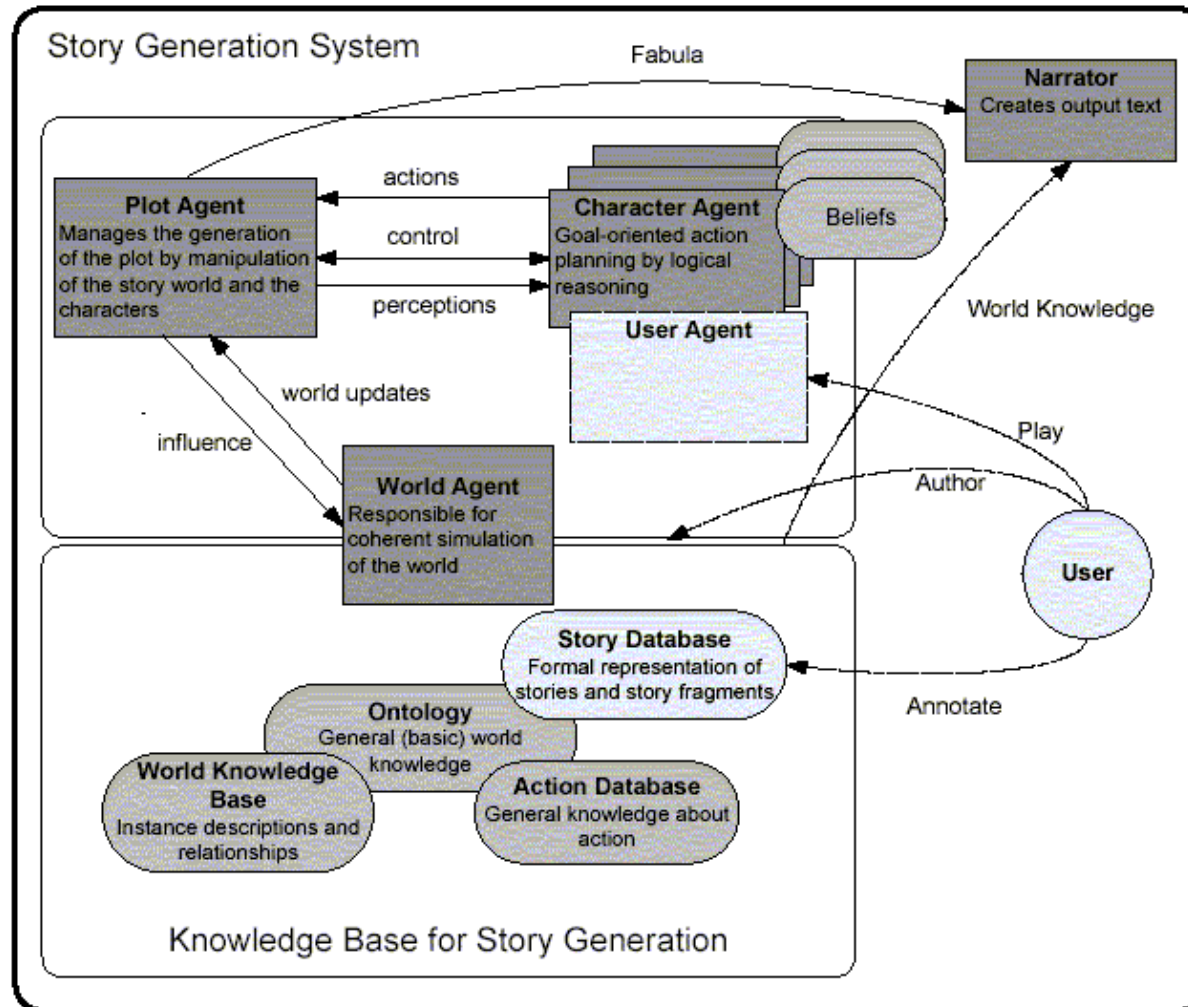


- Balancing character autonomy / plot requirements
  - Dealing with unexpected situations
- Virtual Storyteller: case-based reasoning using a story database

Choosing between different options:

- User annotation / feedback
- Reinforcement learning (Mateas & Stern 2006)

# Detailed architecture





# Interactivity



- How to guide the user without breaking immersion?
  - Virtual Storyteller: Changing the story world / influencing perceptions
- User interface and presentation
  - Intuitive interfaces
  - How to present (limited) options?
  - How to report on user actions?

# Believable characters



- Believability is not about looks but about behaviour
- Increased awareness of the importance of *communication*
- Both verbal and *nonverbal* communication (and what about user input?!)
- Expressing personality and emotion are important, but not the whole story

# Storytelling prosody



General speaking style:  

- *Er was eens een man die geweldig rijk was*

Sudden climax:  

- *Hij wilde zich omkeren en toen klonk er plotseling een harde knal*

Increasing climax:  

- *Stap voor stap kwam hij dichterbij. Toen hij haar dicht genoeg genaderd was, greep hij haar bij haar keel en toen bleek ze plotseling verdwenen*

# Authoring tools



- Authoring stories can be entertaining
- Easy authoring is important to create new applications
- However... Most storytelling systems can be used only by the developer, not by naïve users

# Conclusions



- Storytelling is a growing, multidisciplinary field
- Increasing interest in storytelling for various applications
- Large overlap with gaming
- Not so easy to achieve 'storiness', especially in combination with interaction
- Keep trying!

# More information

about the Virtual Storyteller:

<http://wwwhome.cs.utwente.nl/~theune/VS/>

