

Façade: An Interactive Drama

Michael Mateas
Carnegie Mellon University

Andrew Stern
InteractiveStory.net

Façade



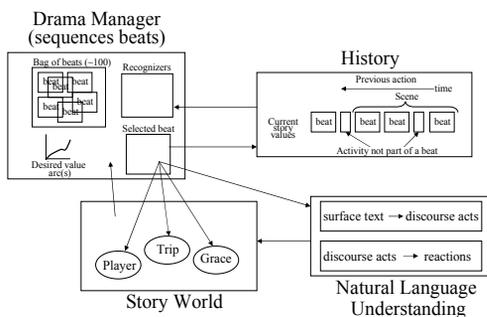
- Dramatic world inhabited by computer controlled characters (believable agents)
- The user (player) plays a protagonist within the story, first-person point of view
- The player experiences a story with a dramatic arc

Project goals and description

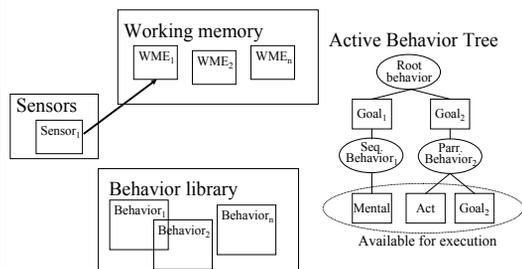
- **A compelling, one-act drama**
- **Player has real influence on characters and story**
 - New AI architecture integrating plot and character
- **Story about adult relationships**
- **Support natural language dialog within story context**
- **Independent project – “two guys in a garage”**
- **Free public release in Spring 2003**

Short demo video

Façade architecture



An ABL agent (Trip or Grace)



Natural language understanding

Phase 1 Pipeline: Surface text to discourse acts

Surface text

"You two look so happy
in this wedding picture"

text pattern → feature
feature → feature

Discourse acts (~25)

Agree
Disagree
Praise
Refer to
...

Phase 2 Pipeline: Discourse acts to reactions

Context:

Affinity Game

Proposer Proposer Priority map

Context:

Global

Proposer Proposer Priority map

} Selector

Beat example

Introduce Grace's buried desire to be an artist and fish for compliments

Precondition

story at tension level 1 *and*
after greeting *and*
affinity is neutral

Canonical beat flow (~10 joint behaviors per beat)

Transition in(s): (e.g. "I just finished decorating...")
Beat goal(s): Grace mentions redecorating is her artistic outlet
Transition out(s): (e.g. "No, no, I have to agree with our friend...")

Handlers (~100 meta-behaviors)

If player agrees/praises Grace – choose positive Grace transition out
If player disagrees/criticizes Grace – choose negative Grace transition out
If player refers Italy trip – mix in digression and return to beat goal
...

Demo video with discussion

Design highlights

- **Story**
 - Story moves forward with progression of tension and topics
 - Replayable – see 20% of content in any runthrough
 - Characters make offers to player
- **Interaction**
 - Play yourself with your name and gender
 - Continuously interactive
 - You have freedom to ruin story

Architecture highlights

- **Drama manager with weakly autonomous characters**
- **AI is like an editor/director (not generating dialog and action)**
- **New authored content can easily be thrown into the mix**

What's new here?

- **It's a **story**, not a game**
- **Puts all the pieces together**
 - Continuously interactive first-person interface
 - Custom reactive planning language with joint action support
 - Broad but shallow NLU
 - Interactive plot (drama management)
 - Expressive, non-photorealistic rendering

Future directions

- **Academic research (January 2003 at GA Tech)**

- Expressive AI research group
 - Interactive story (believable agents, story generation)
 - Robotic sculpture (perception and action)
 - AI and video games (game studies)
 - Models of creativity (generative architectures)

- **Commercial project(s) (starting 2003)**

- Interactive drama
- Narrative games
- Virtual characters with narrative intelligence

Additional team members

- **Mehmet Fidanboyly**

NLU programmer

- **John Rines**

Character animator

- **J.P. Lavin**

Story consultant