Roleplay Technologies:

The Art of Conversation Transformed into the Science of Simulation

Making Games Come Alive with Interactive Conversation

MARK GRUNDLAND

Roleplay Technologies: What is our story?

- **Communication skills training by virtual roleplay.**
- ***** Over 10 years of experience with dialog simulation.
- Over \$0.5 million of research & development, sponsored by the Canadian government.
- First commercial deployment in 2001, providing customer service training on the Internet.
- Our objective: Make the transition from the vertical training markets to a consumer mass market.

Roleplay Technologies: What do we make?



Roleplay Technologies: How does it work?

HR: Excellent! Your qualifications are certainly impressive, and a very good match for the position. But, there is one more question I need to ask. What kind of a salary would you be happy with?



Roleplay Technologies: How complicated could it be?

***** Xerox recorded the space of possible dialogs that arise in the context of a single specific real life sales situation:

Fact:

1 minute of real time conversation

 \approx 4000 lines of dialog

* Our virtual role play training was designed to recreate the dynamics of a single specific real life sales situation:

Recreation: 1 conversation simulation \approx 500 lines of dialog

* Lucas-arts' entire game, "Knights of the Old Republic":

1 dialog in a role-playing game **Fiction**: 50 lines of dialog \approx

1 role-playing game

300 characters

 \approx 15000 lines of dialog

Assumptions: 1 dialog element ≈ 2 lines of dialog ≈ 20 words of dialog Sources: Huthwaite / Roleplay Technologies / GameSpot

Roleplay Technologies: Why is it so hard?

Rules of engagement for realistic goal-oriented dialog:

- + Every choice carries the consequences of all your past actions.
- Learn to recognize your mistakes and you will surely find a way to achieve your goals; persist in them and you will surely fail.
- **+** Talk for as long as you have more than two things left to say.
- * Logical coherence: it makes sense.
- * Linguistic coherence: it sounds right.
- **Temporal coherence:** it happens at most once.
- ***** Immersive coherence: it presents compelling choices.
- Continuous engagement: it does not end in five minutes.

Roleplay Technologies: What makes us different?

Our Interactive Conversation *≠***Standard Interactive Narrative**

- * Realistic.
- ***** Verifiable.
- * Scalable.
- Methodology & tool set.
- Progressive script outlines.
- ***** Automation for authoring.
- ***** Automation for validation.
- Cost effective.



Source: IGDA Game Writers

Roleplay Technologies: What is our advantage for the author?

- We reduce the effort of playwriting for interaction by managing the complexity of the dialog script.
 - We support the standard process of writing dialog:
 - 1. Sketch the characters and the background of the situation.
 - 2. Decide on a goal for the player to achieve.

**

•

- 3. Outline the plot of the conversation, the central storyline that leads the player towards the goal.
- 4. Enumerate the other topics of conversation, the side tangents that lead the player away from the goal.
- 5. Arrange these linear narratives into a nonlinear script. This is the tricky bit that our dialog model is designed to address.
- Our authoring system guides the writer by tracking how adding or changing a single dialog element may affect the coherence of the rest of the dialog script.

Roleplay Technologies: What is our advantage for the player?

- **Conversation** makes a character come alive.
- At every turn, what the player chooses to say turns into a telling story about his character.
- Our computational model of the dynamics of dialog allows us to build up a profile of the player's character by observing his actions and reactions to the situation.



Roleplay Technologies: How to make conversation fun?

* A conversation should not feel like a multiple choice test:

- Voice: Spoken dialog could consist of speaking and listening. You choose your response by speaking it into the microphone. If the script dictates the responses available to you at each turn, your speech is predictable enough for voice recognition to work.
- Pacing: The selection of the available replies could be dynamic. As you are presented with your options, you can only retain a single choice while the remaining ones appear and vanish before your eyes. Decide when to interrupt and when to keep silent. Learn to make strategic decisions under the pressure of time.
- Animation: Facial expressions and body language could make interpersonal interaction more realistic and convincing. Learn to read the cues of nonverbal communication.

Roleplay Technologies: Why don't we advocate free speech?

- Conversation is a game of tactics and tact.
 - + Tactics: what is the right thing to say?
 - + Tact: what is the right way to say it?
- * Technology: speech recognition and natural language understanding may one day know what we are saying but may never quite learn to appreciate how we said it.
- Sychology: neither man nor machine is born knowing how to improvise a great story out of the blue.
- Cost: empowering the human intellect to be creative is easier than creating artificial intelligence to be powerful.

Roleplay Technologies: Why do games shy away from real dialog?



Sources: Sims II / Revolution Sources: Leisure Suit Larry: Magna Cum Laude / Earth & Beyond

Roleplay Technologies: So, what is next?

Realistic dialog simulation is a competitive advantage:

- What if there was a more effective way to make the transition from a linear movie plot to a nonlinear game script?
- What if the fate of the world depended on keeping Sam and the Gollum from killing one another?
- What if diplomacy could make an ally out of your enemy?
- + What if a game put you in the shoes of a terrorist interrogator?
- What if you made friends by getting to know the characters long enough to develop personal relationships? Could you fall in love?
- What if simulated social interaction appealed to the female audience for games, the same demographic that loves to talk and loves nothing more than to talk about relationships?