Designing the Conversational Games People Play

Conversation is the way people learn and play everyday. Last century, the transformation of the silent film into the talking picture turned movies into a universal form of entertainment. This century, a similar transformation is taking place in computer games. The capacity for intelligent interactive dialog is central to simulated social interaction, the next frontier of realism in computer games. Interactive dialog engages players in real stories about real people. The challenge is to recreate the subtlety, complexity and sheer excitement of talking to another person. When interactive dialog is sustained long enough to become credible, the player becomes emotionally involved with the central characters of the game. After all, games are remembered for the emotions they inspire.

More than a mere diversion, role play is the easy and fun way to learn from experience. By engaging in meaningful conversation within the simulated situation, you learn communication skills in the same way as you will use them in real life. These simulations teach the basics: knowing what to say, how to say it and when to listen. They challenge you to discover for yourself the path to success. How you come across can make or break your personal relationships. In real life, you get just the one chance. In our simulations, you can play with your choices until you realise what you did to deserve their results.

In interactive dialog, the rules of engagement are very simple. At each turn, the conversation presents you with choices. Decide on the right thing to say and the right way of saying it. Every choice carries the repercussions of all your past deeds and misdeeds. Though a dialog may offer many tempting digressions, there is always some way to make progress and no single wrong turn immediately leads to a dead end. Finally, the conversation can only be sustained for as long as there is a choice of at least two things left to talk about. At every turn confronting engaging alternatives that lead to believable consequences, you begin to feel personally involved in a conversation rich enough in possibilities to captivate your imagination and fascinating enough not to end in just a few minutes. You are free to explore the various threads of a conversation that is interwoven around a central story line. Step by step, your performance is monitored and evaluated. Afterwards, expert coaching gives you the insight to handle the situation better in real life, revealing how your actions shape the thinking and the feeling that determines the reaction. By learning to recognise your mistakes and build on your successes, you gain personal insight into the strengths and failings of your own communication style.

Rather than resorting to artificial intelligence, we focus on the traditional principles of scriptwriting. Our role plays are based on a script of how people actually talk, rather than endless rules about how people are supposed to talk. Our role plays are designed with quality assurance in mind. Our comedy scriptwriters ensure that the player is always presented with great lines while our relationship expert has sketched a scenario that is true to life. By relying on a script, we can guarantee the quality of every interaction, rather than merely hope that the player will cooperate with the story line. Of course, the confines of a script allow the player to only respond in ways that his character would have thought of. For making a story come alive, this approach has an obvious advantage. In storytelling, a logical inconsistency, a linguistic mismatch or just a phrase out of character is enough to shatter the magic spell. The problem with natural language understanding is that an algorithm may forget to laugh at a player's joke. Not knowing wit from sarcasm, much less which is appropriate and when, a computer system can't be trusted to improvise a moving story out of anything the player may choose to say. Even people find it hard to improvise responses, especially when they feel unsure of being understood. The art of conversation calls for tactics (knowing what to say) and tact (knowing how to say it). Even if it worked as advertised, natural language processing could only operate the tactics but not the tact. We contend that both are indispensable to interactive drama.

Our virtual role plays confront the player with the familiar dilemma of multiple choice. This simple interface can command powerful, complex stories on any interactive platform. Already, our virtual role plays run on the web and CD-ROM. Interactive conversation is a natural fit for mobile phones, offering a virtual character that is always ready to talk. Other possible delivery platforms include interactive television and DVDs. Regardless of the delivery platform, the script can remain the same.

Authoring System for Interactive Dialog

Just as motion capture has transformed animation in action driven games, techniques for conversation capture make affordable a new level of realism in story driven games. From careful observation of the conversational dynamics of real life situations, Roleplay Technologies developed a model of interactive dialog with the power to recreate them. Writing game dialog rich enough to build suspense and convey humour, capturing the breadth and depth of possibility that makes real life conversation so compelling, requires equipping the scriptwriter with the means to keep track of all the different ways in which the situation may play out. Designed specifically to reduce the effort required by the scriptwriter to produce an effective dialog script, the system substantially reduces the dominating costs of content development. Managing the complexity of the nonlinear script structure is crucial in achieving a believable and engaging interactive experience with limited resources. These techniques serve to support the writing process by enabling the disciplined reuse of script elements in the dialog simulation without duplication in the dialog script. They also support the quality assurance process by keeping track of how script changes affect the logical coherence of other dialog elements. The dialog writing system analyses which parts of the dialog have been written so far and how they are interconnected in order to provide context-sensitive guidance throughout the process of constructing the dialog, helping to enforce the logical structure of the script. Our approach overcomes some basic challenges to interactive drama:

PROBLEM: An interactive dialog must account for all eventualities.
SOLUTION: Roleplay Technologies has invented a reusable computational model of the vast space of possible conversations that may arise in an interactive dialog. Reducing the author's burden while preserving the player's freedom, its design systematically minimises the number of scenes that need to be written and verified in order to ensure that the player is presented with a variety of appropriate responses at every turn.

PROBLEM: An interactive dialog must prevent logical inconsistencies.
SOLUTION: Roleplay Technologies has developed an innovative script writing system that compels the author to guarantee that every scene presented to the player will make sense in the context of those that could have come before it. A regular yet flexible script structure constrains the logical dependence between the countless different paths the action may take. It becomes possible to track how adding or changing a single dialog element will affect the logical and linguistic coherence of the rest of the script.

PROBLEM: An interactive dialog must present both choices and consequences.
SOLUTION: Roleplay Technologies has created dialogs where the player is free to explore various subplots organised around the thread of a story line which serves to advance the dramatic structure of the action. The technology relies on progressive script outlines to act as building blocks for the writer. In any script, there is an inevitable trade-off between the breadth of possibilities and the depth of the central story line. The system can scale-up both ways, depending on the needs of the social situation being simulated.

PROBLEM: An interactive dialog must not require scriptwriters to become programmers.
SOLUTION: Roleplay Technologies provides a trained facilitator to act as the interface between the scriptwriters and the dialog authoring system. In this way, writers can focus entirely on writing, rather than learning to use the authoring tools. The following methodology enables a standard dialog writing process:

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 problem that the dialog models are designed to resolve.

About Roleplay Technologies Products and Services

Roleplay Technologies designs computer simulations of how people talk with each other. With over ten years of commercial experience in the custom development of dialog simulation and authoring systems, Roleplay Technologies specialises in recreating the interactive dynamics of real life conversation in real life situations. Providing role plays for the e-learning and interactive entertainment markets, Roleplay Technologies delivers conversation simulations that combine the competitive advantages of being realistic, scalable and cost effective. Roleplay Technologies offers a full range of consulting services and customised products, including the creation of virtual role plays, as well as their simulation and authoring systems.

With extensive investment in research and development, Roleplay Technologies has developed models, methodologies and software systems for managing the complexity of scriptwriting for interaction. This production process is specifically designed to reduce the cost of creating interactive content, and thereby eliminates the greatest obstacle to creating high quality content. These techniques have been developed in the context of e-learning simulations to provide role play training that is realistic enough to teach effective communication skills. The technology has been commercially deployed on the internet to deliver customer service training, where sales agents match their wits against simulated customers. In market testing, it was found that, after trying out one of the virtual role plays, 96% of the participants wished to play another.