We are developing a synthetic audience agent as a means to assist with creative story plot authoring. A synthetic audience supports creativity by enabling authors to receive more feedback with greater frequency, and to receive feedback when no human audiences are readily available. The synthetic audience agent performs three tasks:

• Track a model of the narrative as it is being authored
• Compute responses to the narrative from the perspective of a hypothetical reader
• Provide feedback to the author about these responses

QUEST models human question-answering processes with regard to stories (Graesser 1991). Stories are represented as graphical structures. Nodes symbolize events, states, and character goals, while arcs represent the relationships between these items.

Human recipients of narrative use various inference processes to make sense of narrative sequences. We use a computational model of inference to generate hypotheses about how authored events relate to each other. The synthetic audience maintains a set of hypotheses as to what the audience’s mental model of the plot might be. Each hypothesis is a different legal way that in which events and goals might be related in a QUEST structure.

To generate hypothetical plot models, we make inferences about the superordinate goals, causal antecedents, and causal consequences of each new event ($E_{\text{new}}$). These inferences allow us to connect $E_{\text{new}}$ to the rest of the story. We use the following strategies (in order) to hypothesize superordinate goals ($G_{\text{sup}}$):

a) Use human-authored goals that have not yet been achieved

b) Use hypothesized goals from previous iterations

c) When other strategies fail, we use case-based reasoning to propose new hypothesized goals from a case library of QUEST story fragments. We propose that the superordinate goal of the selected case maps to the superordinate goal of the new event in our story.

Once we have computed a response, we need to provide feedback to the human author. However, there are a number of important factors in determining when to provide feedback:

• Will providing feedback now disrupt the author’s flow?
• How should we provide feedback? Feedback must be noticeable without being distracting
• How do we allow authors to respond to feedback?