Conversation Creation Engine for Children

Hamid Palo
DevTech Research Group
Prof. Marina Bers
Elliot Pearson Department Of Child Development
Introduction

- Based on a project called SAGE (Storytelling Agent Generation Environment) by Marina Bers


- Allows children to create their own conversation agents through which they can share stories and experiences

- Helps children get a better sense of self

- Helps children start thinking like programmers as they have to formalize their thoughts into a conversation tree
Requirements

• Allow multiple interfaces, both standalone and Zora, a multi-user graphical environment specifically developed to help users design and inhabit a virtual city

• Everything must be visual, requiring no code entry by the user
Conversation Trees

• Each conversation is represented as a tree of user inputs and responses

• Nodes contain agent responses to user input

• Edges are user inputs, that is an edge is followed is the user input matches the pattern provided for that edge

• When the user enters text, the system searches through the edges from the current node.

• If a match is found it follows that edge to the next node, otherwise it follows the specified default node
Conversation Trees (continued)

- User-specified variables are collected at the edges

- For example, if the user says “My name is Andrew.” and the creator of the conversation specified to extract the name at that node the system will store “Andrew” as the name of the user

- Creators can also label nodes as “story” nodes. When these nodes are reached the system analyzes the conversation up to that point and picks the best story added by the user as the response
Sample Conversation Tree

- The system records the response as the name of the user.
- The agent introduces itself and asks a question like "What is your name?"
- Agent says "Nice to meet you name. How are you feeling today?"
- User: I am sad.
- User: I am happy.
- User: I did bad on a test.
- Agent: "I am very sorry to hear that. Why are you sad?"
- At this point the agent tells a story followed by "Do you feel better now?"
- User: No.
- User: Yes.
- User: Lost dog.
- User: Yes.
- User: No.
Future and Current Work

• Working on an attractive and easy-to-use Flash interface

• Enhancing the conversation algorithm to allow for better response handling

• Expand the algorithm to account for misspelled words and synonyms

• For example, “cheerful” would be matched by both “cherful” and “cheerfull”

• Different weights for keywords and matching conditions based on modifiers

• For example, “happy” would receive a score of 3 and “very happy” a score of 7
Questions?