Design Key Points

1. Chatbot responses
   a. Keyword parsing
   b. Step-by-step logical flow
   c. Concise, easy to understand phrases
2. Optimizing common cases
   a. Anticipate common user inputs
   b. Encourage common responses to progress conversation
3. Error handling
   a. Simple, general handling of unexpected input
   b. Maintain logical flow of conversation

Challenges

1. Conversation flow
   a. Responsiveness to user input
   b. Backtracking and conversation subpaths
2. Error handling
   a. Simple, general handling of unexpected input
   b. Maintain logical flow of conversation

Areas for Improvement

1. Decision Tree
   a. Improving depth and breadth
   b. Greater branching, more responsive chat responses
2. Input parsing
   a. More sophisticated parsing: grammar and semantic parsing
   b. Use cases for: grammar tree, language model encoding