Word Game

(and learning new words!)

Anna Katarina Page
Dialogue systems V21

Description

This game has two modes:

1. The game

- In this mode, the user starts by saying a word, the computer and the user then take turns saying other words which differ in spelling from the previous word by just one letter

2. Word learning

- In this mode the machine selects a random word from a list of “hard words”, connects to a dictionary API and shares the first definition from the API with the user

Technicalities

- Rasa is used for intent classification
- Based in xstate react
- Makes use of three different grammars
    1. One for the grammar of permissible game words
        - ➡The machine selects a valid word from this grammar on its turn
            - A word is valid if it is four letters long, only one letter different from the previous word (if there is one), and has not been used before
            - If there are no words remaining in the grammar that meet these restrictions, the system admits defeat then returns to the initial state
        - ➡On the user's turn, if the input is in the grammar, the system uses a function to confirm that the word is also just one letter different from the previous word and has not been said before
            - ➡If it is a valid move, it goes to the systems turn
            - ➡If it is not, the user loses
    2. One for the list of hard words for use in the word learning mode
    3. A boolean grammar for polar responses
- A dictionary API to retrieve the definitions of hard words

Added Features

Extra functionality

- Can say “help” at any point during recognition for guidance on how to respond to the current prompt
- Can say “stop” at any point during recognition to quit and return to the beginning
- The system will reprompt the user in new ways if no input it detected for 5 seconds
  - After three reprompts, the system will give up and return to the initial state
- If the system does not recognise the user’s input it will alert the user of this and return to the state it was in before

Challenges

- Figuring out how to look inside of the input to check validity
- Connecting to the dictionary API
- Specifying the mutually exclusive conditions to be met for the user's input to be valid and ordering the conditions correctly

Future additions?

- Making the visual aspect more reactive and engaging
  - Displaying the current word that was said
  - Updating a list on the page with each word so the user can see it
    - Though would that make it too easy?
  - Showing the definitions of the words when in word-learning more
- Expanding the dictionary used for the game
  - Simply adding way more words
  - Allowing for numbers of letters other than four