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I'm packing my
suitcase.

LT2216 Dialogue Systems
- Course Project



The Game

- System and user take turns in adding objects to a suitcase, reciting all objects that have already been added



I'm packing a suitcase and I'm bringing toothpaste.

I'm packing a suitcase and I'm bringing toothpaste and tissues



That's right. I'm packing a suitcase and I'm bringing toothpaste, tissues, and a phone charger.

- You lose if you make a mistake in the reciting or try to add something that is already in the suitcase

Technicalities

RASA custom Actions

- ActionSetUpGame
- ActionExtractInput
- ActionPlay

Error Handling

- FallbackPolicy: action_restart
utters: "Let's start over."

Interactive Learning

```
class ActionExtractInput(Action):  
    def name(self):  
        return "action_extract_input"  
  
    def run(self, dispatcher, tracker, domain):  
  
        message = tracker.latest_message.get('text')  
        return [SlotSet('user_words', message)]
```

```
vocabulary = ["shoes",  
              "sunglasses",  
              "shirts",  
              "jackets",  
              "socks",  
              "pajamas",  
              "speakers",  
              "toothpaste",  
              ...]
```

Challenges

- Highly dependant on Google's Speech Recognition
- Separating input into units
- User can make many unexpected mistakes



That's right. I'm packing a suitcase and I'm bringing toothpaste, tissues, and a phone charger.

I'm packing a suitcase and I'm bringing toothpaste issues a phone charger and a computer



You did not say tissues. You lost. Do you want to start over?

Relation to Course Contents

- Grounding
 - used_words = common ground
- Incrementality
 - User and System incrementally add to common ground
 - User utterance processed incrementally
- Spoken Dialogue is different from written text
 - Tried to allow as much variance in the user input as possible

Future Work

- Limit user input
 - to actual words
 - to the domain

→ Lower error rate
- Implement another way to make the system lose
 - e.g. 5% chance of making a mistake

Demo

The screenshot displays the Google Actions Console interface for a project named 'PackingSuitcase'. The browser address bar shows the URL `console.actions.google.com/project/packingsuitcase/simulator/`. The console's top navigation bar includes tabs for Overview, Develop, Test (which is active), Deploy, and Analytics. On the right side of the console, there are icons for various actions and a user profile.

The main content area is divided into two panels. The left panel, titled 'Packing my suitcase', shows a simulated conversation. It begins with a system message: 'Hello! Welcome to the Game 'Packing my suitcase'. You can start by saying hi.' Below this, a user input 'hi' is shown. The system then responds with a detailed instruction: 'Hello dear opponent! Let's play a game. It's called I'm packing my suitcase. This is how it works: I will start by adding the first object: I'm packing a suitcase and I'm bringing shoes. You will then repeat this sentence and add another object to the suitcase, for example: I'm packing a suitcase and I'm bringing shoes and pants. Understood?'. At the bottom of this panel, there is a 'Suggested input' section with a 'cancel' button and a text input field containing the word 'yes'.

The right panel, titled 'Change version', shows the configuration for the simulation. It includes dropdown menus for 'Surface' (set to 'Smart Displ...'), 'Language' (set to 'English (United States)'), and 'Location' (set to 'Uppsala, 753 20 Uppsala, Schweden'). Below this, there are tabs for 'DISPLAY', 'REQUEST', 'RESPONSE', 'AUDIO', 'DEBUG', and 'ERRORS'. The 'DISPLAY' tab is currently selected, showing a preview of the text that will be displayed to the user. The text in the preview matches the system message from the left panel: 'Hello dear opponent! Let's play a game. It's called I'm packing my suitcase. This is how it works: I will start by adding the first object: I'm packing a suitcase and I'm bringing shoes. You will then repeat this sentence and add another object'.

In the bottom right corner of the screenshot, there is a small video feed showing a person wearing headphones and glasses, likely the presenter or a user interacting with the demo.

Discussion

- Do you see any issues with how I read in the user input?
(as a hard string, no entity extraction or similiar)
- Is there a way the user could win or lose the game that I missed?

Thank you for your attention!