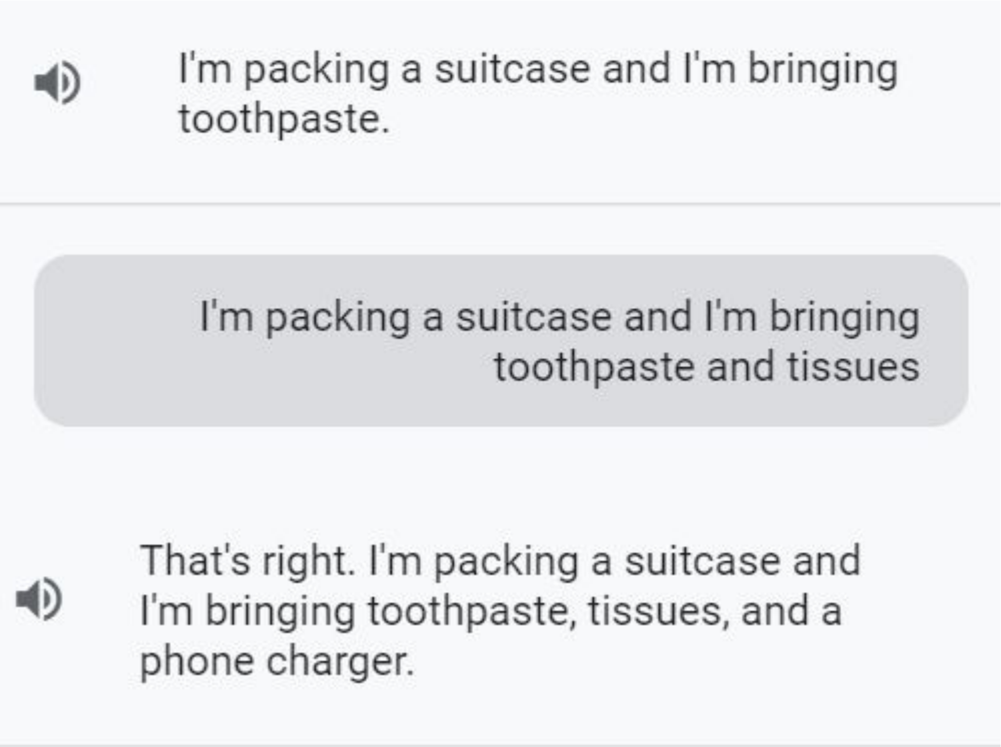
Merle Pfau

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



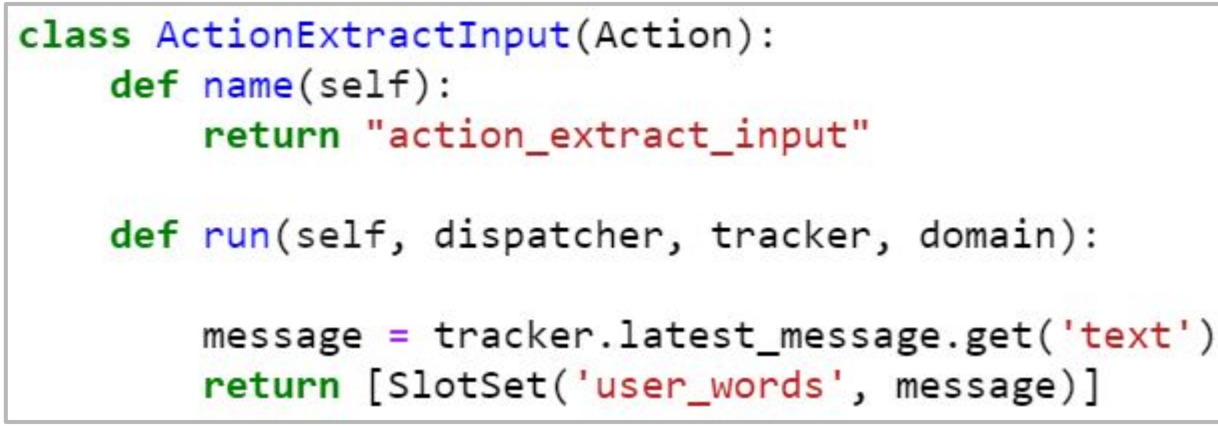
I'm packing a suitcase and I'm bringing toothpaste.

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



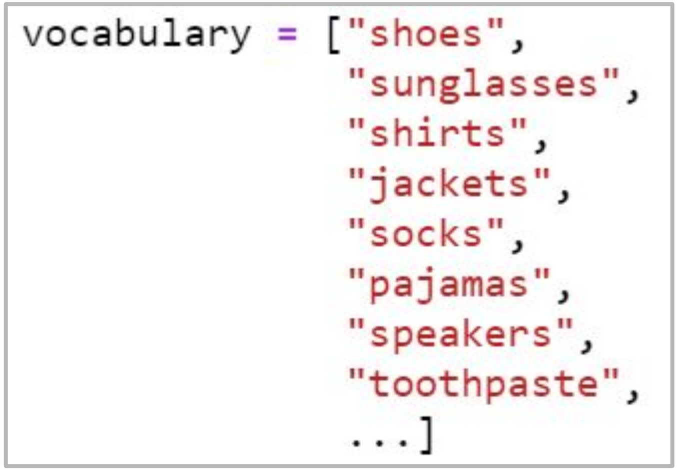
```
class ActionExtractInput(Action):
    def name(self):
        return "action_extract_input"

    def run(self, dispatcher, tracker, domain):

        message = tracker.latest_message.get('text')
        return [SlotSet('user_words', message)]
```

RASA custom Actions

- ActionSetUpGame
- ActionExtractInput
- ActionPlay



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

Error Handling

- FallbackPolicy: action_restart

  utters: "Let's start over."

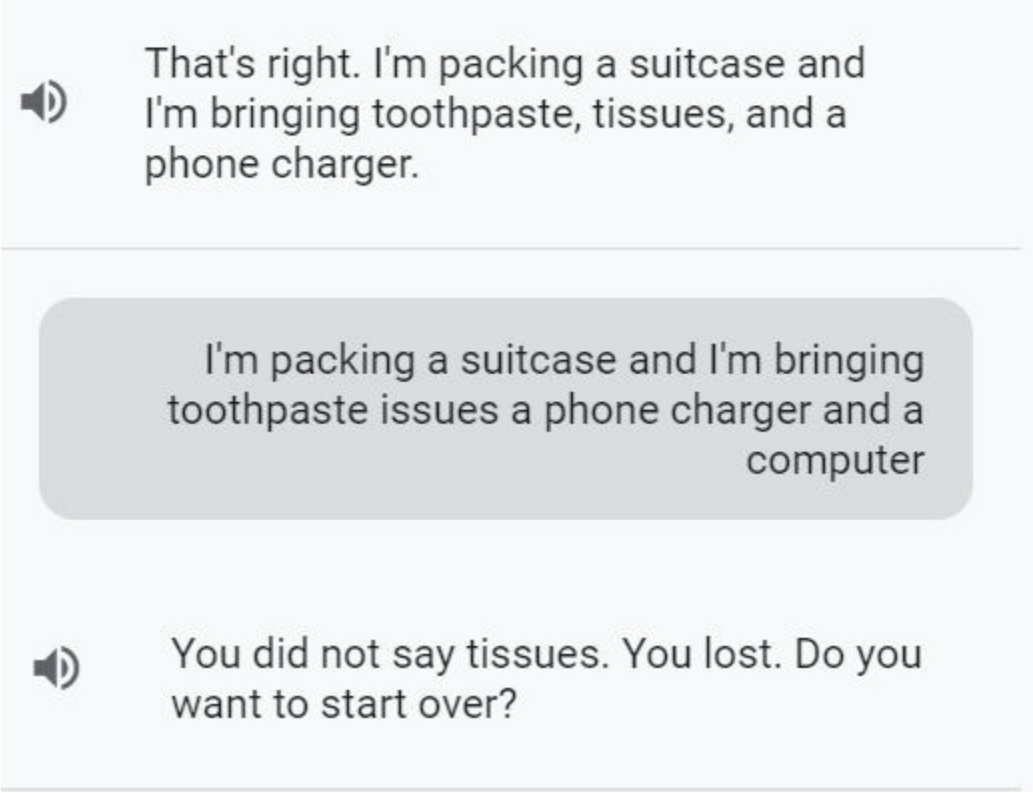
Interactive Learning

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
  - affirm + "I'm packing a suitcase and I'm bringing " + used_words + word_choice
- **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

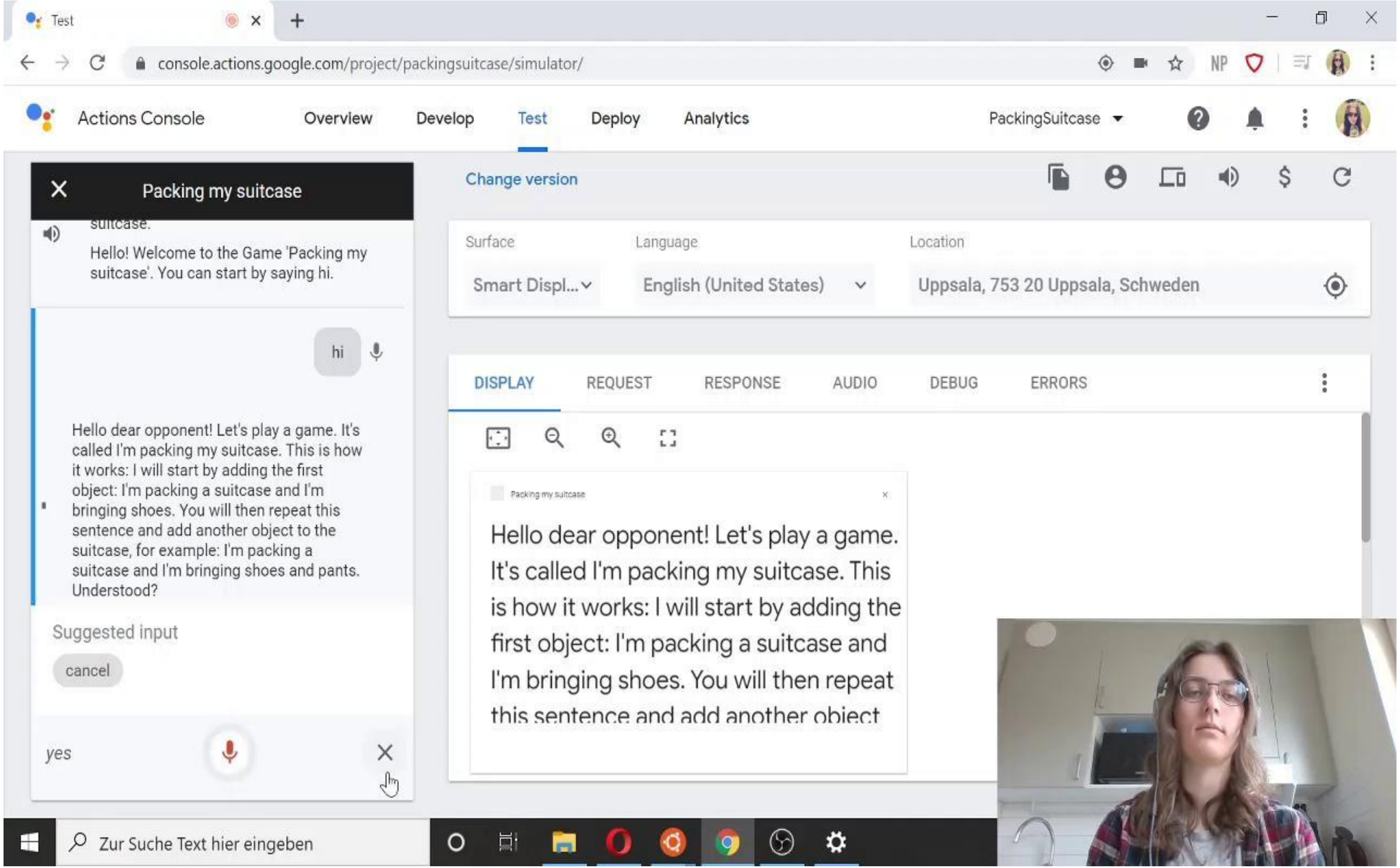
Future Work

- **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



suitcase.

Hello! Welcome to the Game 'Packing my suitcase'. You can start by saying hi.

hi

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?

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

Discussion

- Do you see any issues with how I read in the user input?

  (as a hard string, no entity extraction or similar)

- Is there a way the user could win or lose the game that I missed?

Thank you for your attention!