Intelligent Conversational Bot

Milestone 3

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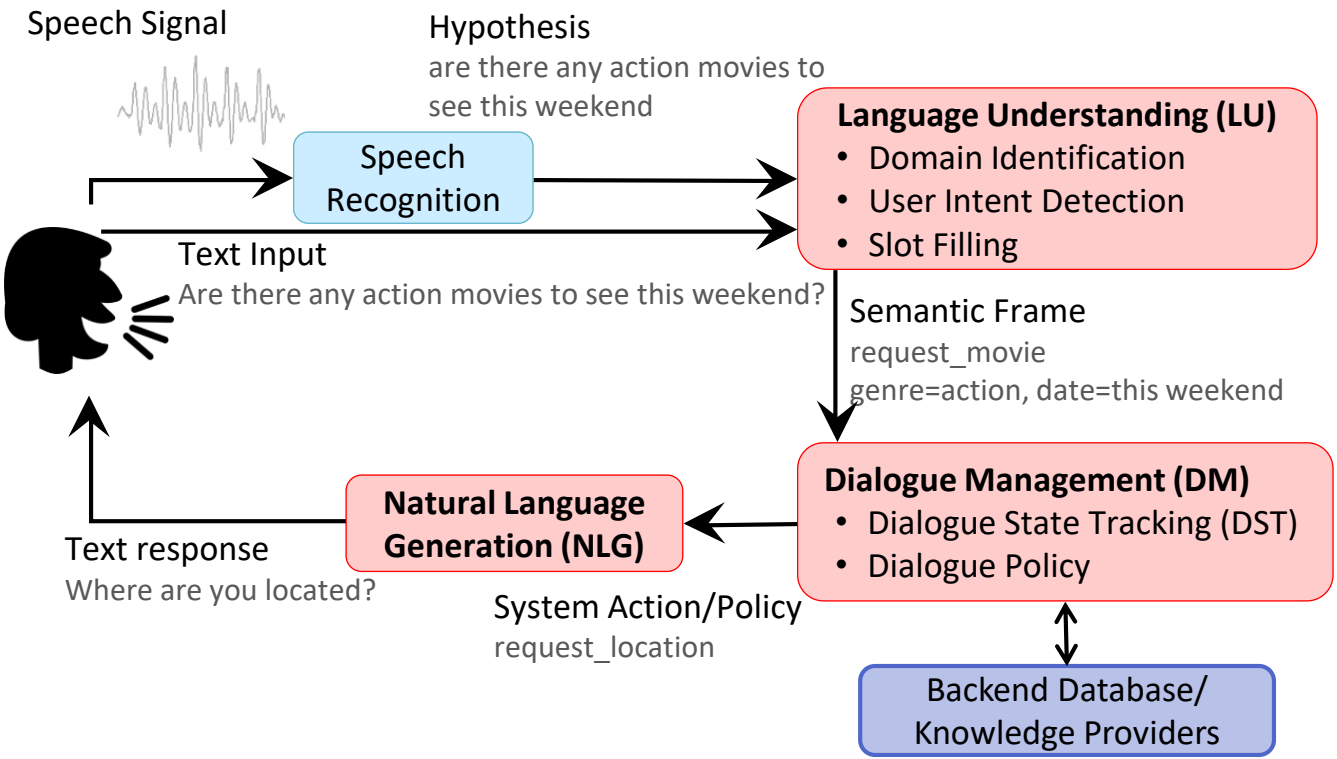
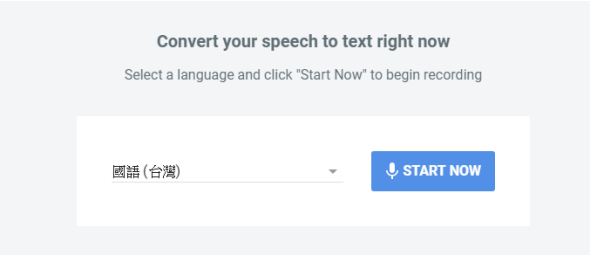
Milestone 3 – Learning-Based Agent



Milestone 3 – Speech / Multimodal API

- Google Cloud Platform/ Chrome Extension (demo)



- Microsoft Cognitive Service (demo)

偵測結果：
偵測到 4 個臉部

JSON：

```
[
 {
  "FaceRectangle": {
   "Top": 114,
   "Left": 212,
   "Width": 65,
   "Height": 65
  },
  "Scores": {
   "Anger": 1.0570484E-08,
   "Contempt": 1.52679547E-09,
   "Disgust": 1.60232943E-07,
   "Fear": 6.00660363E-12,
   "Happiness": 0.9999998,
```

Milestone 3 – RL-Based DM

1) Dialogue policy optimization
   - Reinforcement learning agent
     - Check whether the agent can handle misrecognized texts or misunderstanding
2) Evaluation
   - Learning curve
     - Success/Fail
     - #turn
     - Reward
   - Please check the strategies this agent applied to make sure your RL agent has increasing performance trend

Milestone 3 – NN-Based NLG

3) Model
   - RNN-based NLG for generating sentences given the system actions associated with the slots
4) Evaluation
   - BLEU score for train and test
   - Training data (#sentences)
   - Testing data (#sentences)
     - Should be human-written
5) Creativity
   - Diverse/interesting responses for bonus

Milestone 3 Requirements

- Report (10%)
  - Speech/multimodal API
    - Describe how you implement speech recognition or richer input analysis
  - Reinforcement learning based dialogue policy
    - Describe how you implement the RL agent
      - Observation, state, etc
    - Report the learning curves for reward and success rate
  - NN-based NLG
    - Describe how you implement the NLG
    - Training/testing data split (testing should come from human-written full sentences)
    - Show some testing results
    - Report the BLEU score
  - Performance for simulated dialogues
    - Show some dialogues between the simulated user and the RL agent
    - Report the performance in terms of success rate and reward
- Demonstration (5%)
  - Send the public link
  - TAs will randomly pick 10 interactive dialogues and record the success rate
    - Failed interactions will be forwarded to the team, you can make them work to get credits