Spoken Dialog System based on Real-time Control of Dialog Tempo for Smooth Dialog
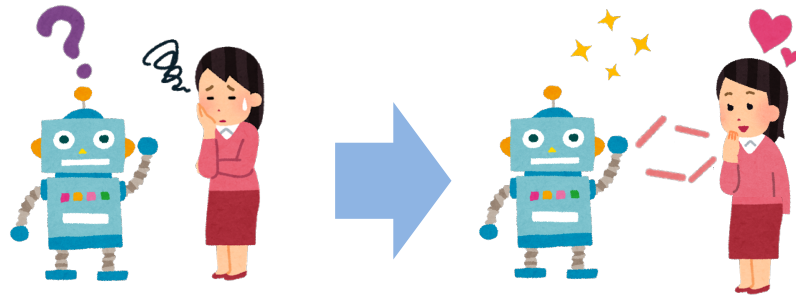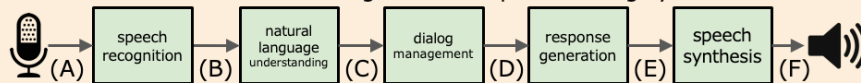
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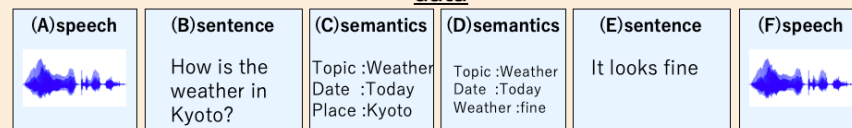
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Probrem:
Robots can't interact as naturally as humans

Solution:
Focus on conversation tempo and make it smoother

Basic module configuration of spoken dialog system

(A) → speech recognition → (B) → natural language understanding → (C) → dialog management → (D) → response generation → (E) → speech synthesis → (F)

data

(A)speech	(B)sentence	(C)semantics	(D)semantics	(E)sentence	(F)speech
	How is the weather in Kyoto?	Topic :Weather Date :Today Place :Kyoto	Topic :Weather Date :Today Weather :fine	It looks fine	

Improve the performance of each part

- Introduction of deep learning
- Response timing control
- select response content

- Daily conversation voice data
- large conversation data

Mutual cooperation

- Use info from each part
- Exchange information
- In real time
- Mutual use of interim results

1) Research background

In recent years, **spoken dialog systems** such as Apple Siri have become widespread. However, **a smooth conversation** like a conversation between humans **cannot be performed**. To achieve this, the control of other elements is indispensable.

2) Research method

In this study, we **focus on the tempo** of the dialog (volume, pitch, speed, timing). The purpose of this research is to clarify the elements necessary for the user to use the spoken dialog system naturally and enjoyably.

3) Application

As a result of this research, it is **possible to realize a robot that can have more fun and smooth interaction** by being able to perform conversations with good tempo.

Not only that, this technology is indispensable as a means for inputting information to a spoken dialogue system, robot, and device.

Keywords： spoken dialog system, speech recognition, tempo, real-time

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