Constructing a Culinary Interview Dialogue Corpus with Video Conferencing Tool
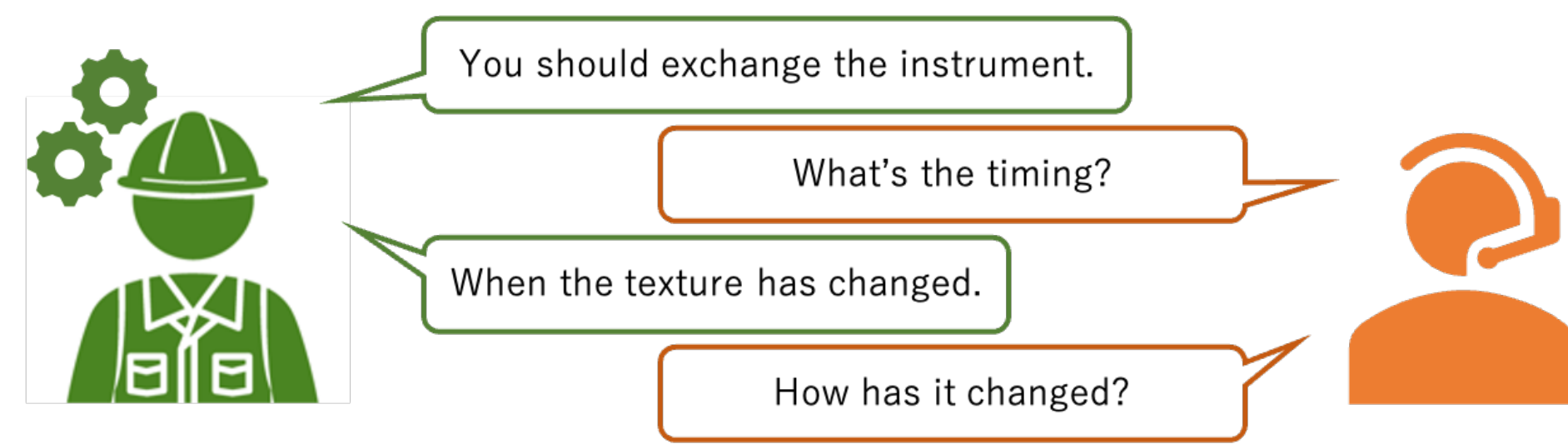
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Introduction

- **Knowledge-Eliciting Interview**: interview dialogues in which the interviewer plays an active role to guide the overall dialogue flow and elicit technical knowledge is still lacking.

Related Work

Dataset	Object	Format	Aim
DAIC [Gratch+ 2014]	Medical Interview	Audio Movie Text	Interviewer agent system Automatic diagnosis system
INTERVIEW [Majumder+ 2020]	News Interview	Text	Dialogue summarization system
MEDIASUM [Zhu+ 2021]	News Interview	Text	Dialogue summarization system

- Not focusing the interviewer's elicitation of the technical knowledge.
- Not including multimodal information.

Method of Data Collection

- **Interview Dialogue Setting**

Expert
- introduces the recipe of a specific dish to the interviewer.
- is asked to submit the following information in advance: (a) the dish title, (b) a brief summary of the recipe, (c) 6–10 pictures of the cooking process, (d) Takeaway points

Interviewer
- actively elicits technical knowledge from the expert
- is given the information (a–c) submitted by the expert and advised to read the **"Interviewer's manual"** we provided (see the right column)

- **Recording Method**
- Used the video conferencing tool Zoom.
- Recorded the audio and video contents as .wav and .mp4 files respectively.

An Example of Knowledge-Elicitating Interview

Speaker	Start	End	Utterance
I	10:34.3	10:38.9	（ふーん）（で）何か（この）揚げているときのコツとかってありますか？ Do you have any tips for frying?
E	10:39.4	10:39.8	（あ）。 (Um)
E	10:40.1	10:42.8	揚げているときのコツですね。 Tips for frying.
E	10:43.1	10:43.9	（えーと） (Well)
E	10:44.3	10:45.5	揚げているときの（こ）。 Frying...
I	10:45.1	10:50.1	例えば、私、よく（あのー）何か（こー）心配で、できているのかなって、（こー）菜箸でぐしゃぐしゃ、 For example, I am often worried and feel the urge to check whether the ingredients are ready,
I	10:51.3	10:54.9	やったりしてしまうんですけど、（な）（な）（な）。 I end up stirring it with chopsticks to check
E	10:51.6	10:52.6	（?）。
E:	10:53.8	10:58.6	そうですね。つまり、なるべく（あのー）なるべく触らないように。 It's better not to touch it.
I	10:58.6	11:00.2	（あー）やっぱりそうですか。 (Oh) I see.
E	11:00.0	11:00.7	(?)
E	11:01.4	11:18.0	片面を揚げましたら、（えーと）なるべく触らないようにそのまま（えー）じっくり火を通して、また裏返して、その後も（あのー）ほとんど触らないように、（えー）形がくずれないように揚げていって、（で）最終的に（あのー） **After frying one side or it, let it cook slowly without touching at all. After that, flip it over and deep-fry it without touching, so that it does not lose its shape. At the end of the frying,**
E	11:19.0	11:22.4	（えーと）バットに上げるときに、油をしっかり（こー） **drain off all the oil when you lift it onto the bat,**
E	11:22.9	11:28.5	切るというのが、（あの）カリッとふわっと仕上がるコツかなと思いますので。 **this is the key to have it crispy and fluffy.**

Interviewer's Manual

From a preliminary experiment, we manually collected the following 11 classic patterns of interview questions which can elicit knowledge of the culinary domain:

1. Ask numerical questions such as quantity of ingredients, how long a cooking procedure takes, etc.
2. Ask the expert to elaborate on subjective descriptions such as 'thickening", "browning.", etc.
3. Ask about the possible ingredient and equipment substitutions.
4. Ask about preliminary preparation steps since they are often omitted.
5. If you notice some details in the picture that is not mentioned by the expert, ask for further explanation.
6. Once you have elicited an explanation from the expert, take it one step further and see if it's a good thing.
7. Ask for the tips directly.
8. Ask about what should be avoided during the cooking procedure.
9. Express your concern and critics about the recipe.
10. Ask hypothetical questions based on your own culinary knowledge.
11. Instead of yes-no questions, try to ask "why" or "how" about the cooking procedure.

Statistics

- **CIDC Statistics**

	Expert	Interviewer	Total
# of words	370,771	218,751	589,522
# of utterance	35,478	28,677	64,155
# of dialogue	—	—	308
Video length	—	—	64.8h

- **Questionnaire Results**

Question	Avg.	SD	Question	Avg.	SD
Was the conversation going smoothly?	4.6	0.7	Was the conversation going smoothly?	4.2	0.8
Was the interviewer able to elicit culinary knowledge?	4.6	0.8	Was the interviewer able to elicit culinary knowledge?	4.1	0.8

Expert   Interviewer

Characteristics of Knowledge-eliciting Interview

❶ **Paraphrasing and Repetition**
- Hearer's repetition of the speaker's utterance often functions as a trigger to repair conversational troubles [Schegloff 1997].
- Paraphrasing and Repetition often elicit the purpose and details of recipe procedure from experts.

❷ **Situation-oriented questions based on interviewer's own experience**
- The interviewer's reference to a specific situation based on his/her own experience can prompt the expert to recall more detailed procedures and add explanations for implicit points (the bold utterances in the left example).

Conclusion

- We introduced the construction of CIDC, which aims to facilitate the research of knowledge elicitation from domain experts, using the video conferencing tool Zoom.
- Our corpus can contribute to the future research of interview dialogue systems and the elicitation of domain knowledge.
- The CIDC will be publicly available in near future.