Conversation Workflows with Micro-breaks in Conversational Crowdsourcing

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1. Background

- **Conversational crowdsourcing** has been recognised as an alternative to web based crowdsourcing [1]
- Knowledge gap exists between **crowdsourcing workflows** and **conversation workflows**
- Knowledge gap exists between **database modeling** and **conversation workflows**
- **Micro-breaks** improve worker retention and slightly improve accuracy and work time [2]

2. Research Questions

How can a conversation workflow be designed with micro-breaks to effectively support task execution?

1. How can a **database model** be designed to support a conversation workflow with **push and pull based micro-breaks**?
2. To what extent, do **push and pull based micro-breaks** affect worker engagement, preferences and task execution performance?

Conversation Workflow

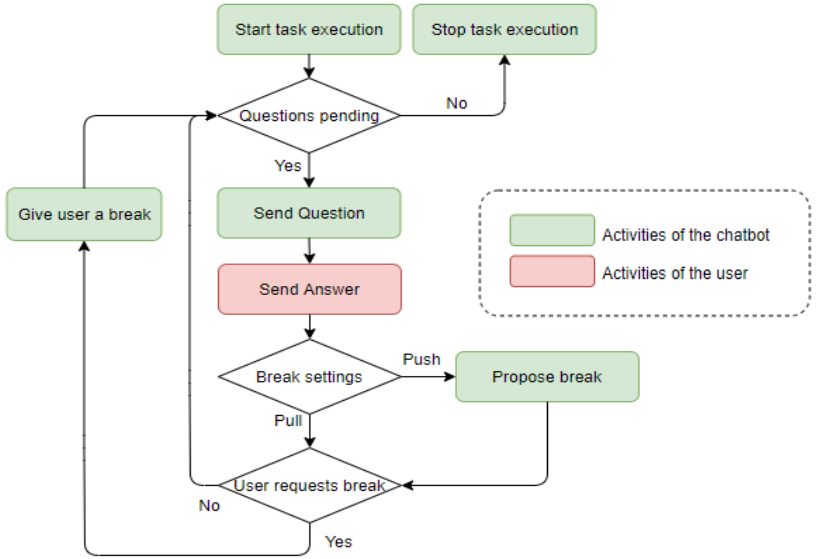

Figure 1: Conversation workflow used for experimental setup

3. Method

- **Design** database model for the conversation workflow
- **Crowdsource** image labeling task to two groups of 10 participants with push and pull break settings respectively
- **Measure** worker engagement, preferences, task quality and duration

4. Results

	With break proposal	Without break proposal
Worker engagement (UES-LF)	3.83	3.44
Task quality (% correct)	89	82
Task duration (min)	10:23	07:33
Breaks taken	0	0

Figure 2: Results for each experimental group

5. Conclusions

- Break proposals slightly **increase** worker engagement, task quality and duration even though no breaks were taken
- Workers take **less** breaks than they prefer to
- Break preferences **vary** among workers
- **Correlation** between worker engagement and task quality

5. Future Work

- Conversation workflows with break **preference elicitation**
- Study the effect of worker **engagement** on task **quality**

[1] P. Mavridis, O. Huang, S. Qiu, U. Gadiraju, and A. Bozzon, "Chatterbox: Conversational interfaces for microtask crowdsourcing," 06 2019. [2] J. Rzeszotarski, E. Chi, P. Paritosh, and P. Dai, "Inserting micro-breaks into crowdsourcing workflows," 01 2013.