# Proposal for a Protection System Against Customer Harassment in Avatar Robot Customer Service

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Introduction

In traditional face-to-face customer service, employees often encounter customer harassment
70% of employees have experienced it.(UA Zensen, 2017)

> frustration
> stress
> diminished motivation

○×△！！ ...I apologize I want to quit!!
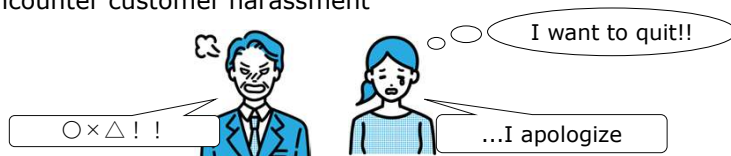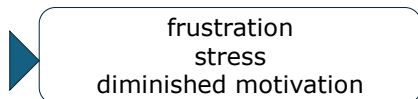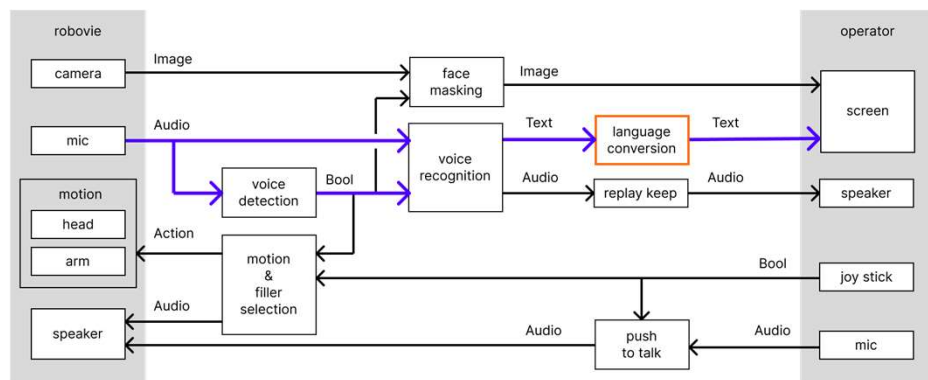
Approach

Avatar robots are remotely operated surrogate robots. This allows systems to intervene, reducing the stress.

System goals
- reduce operator's stress
- provide service to angry customer

essential information
abuse
Filtering
angry customer   avatar robot   operator
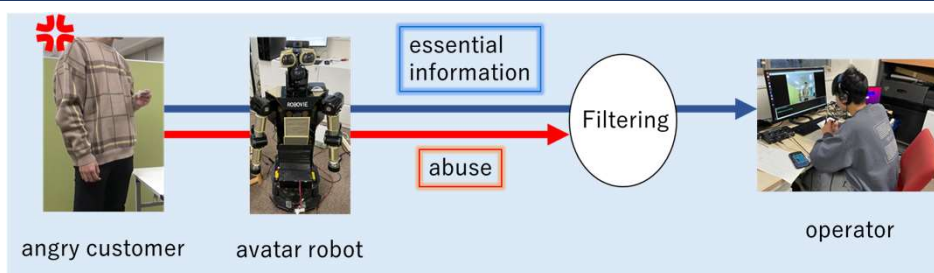
System

Language conversion
- model: ChatGPT-4o
- dataset: 160 complaint statements collected from the internet and interview
- prompt: exclude aggressive words and be polite Japanese

Main flow

1. detect the customer's voice
2. convert to text from audio
3. change text to be polite
4. display on the screen

Other features
- masking a face (by emoji)
- keeping replay
  to listen to the original audio
- playing filler
  record audio in advance
- change motions

Experiment

scenario An angry customer visits a shopping mall service counter, and an avatar robot staff responds
Selection from 10 complaint scenarios based on interviews

conditions
- With filtering (proposal)
- Without filtering (baseline)

results (lab exp.)
- stress experienced from the customer was reduced
- communication became more difficult

customer

> Hey, I shopped at your supermarket the other day and used my credit card,
> but the amount charged is completely wrong!
> What are you going to do about it?

customer is talking...

1~2s

text displayed!

system

> I recently made a purchase at your supermarket using my credit card, but it seems the amount charged is incorrect. Could you please explain what's going on?