“How was your stay?”: Exploring the Use of Robots for Gathering Feedback in the Hospitality Industry

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Research Questions

1. Can we use robots to gather feedback from guests?

2. How should we design robotic systems to gather better customer feedback?
Approach

A. Need finding interviews at 5 hotels
B. Online guest scenario survey (n=60)
C. Deployment studies
   1. At 3 hotels (~4 months)
   2. At 1 company kitchen (1 month)
Need Finding: Results

● 👍 = Disseminate widely
● 👎 = Respond immediately

Online Guest Scenario Survey

- 60 participants from Amazon MTurk
- A positive or negative scenario
- 4 solicitation conditions
  - 5-point Likert scale question
  - Open-ended question
“A feedback robot? That's just weird, the world isn't ready for that.”

“I wouldn't trust the robot.”
"It sounds easy and kind of cool."

"It is too rude to not respond to this cute robot."
Online Survey: Results

- Perception of the robot solicitations
- (In)convenience
- Privacy issues

“Checking out. I just want to leave and get home.”

“Less likely, but I’d feel the staff might be watching over my shoulder.”
Thank you!
Breakfast Room Survey

- Prototyped with UX designer & hotel manager
- Deployed for 129 days
- 229 min, 43 responses on avg per day
- Passive observations & follow-up interviews during 2 visit days
elevator
Hotel Deployment: Results

- Feasibility
- Environmental factors
- Privacy issue
Kitchen Deployment

- 3 times a week for 3 weeks
  - Monday Breakfast (Mon BF)
  - Monday Lunch (Mon LU)
  - Wednesday Breakfast (Wed BF)

- 3 behaviors
  - Default
  - Social
  - Mobile
Kitchen Deployment

- Video recorded
  - Annotated & analyzed

- Customer opinion questionnaire
  - Sent after each session
  - 4 5-point scale Likert questions
  - 1 open-ended question
Response Rates

Robot Behavior | Week # | Meal Type
---|---|---
baseline | W1 | MON BF
social | W2 | Mon LU
mobile | W3 | WED LU

Percentage Values:
- baseline: 53.49%
- social: 56.41%
- mobile: 57.50%
- W1: 71.05%
- W2: 68.57%
- W3: 48.72%
- MON BF: 50.00%
- Mon LU: 64.29%
- WED LU: 74.29%
Change in Customer Perception of the Service

“The food is what matters.”

“No confirmation on where the feedback is going, how it would be actionable.”

“It seems good to know that I can provide input, whether it’s good or not, to make things better next time.”
Design Recommendations

- “Middle-man”
- Simple and fun interaction
- Respect the guest privacy first
- UI for customizing behavior by the hotel
- Follow-up or explain
Limitations

- Need finding: small number of hotels
- Online survey: small number of conditions
- Deployment study: inevitable bias
- Results unlikely to generalize
Summary

- Mixed-methods
- Two stakeholders
- In-the-wild study
- Demod feasibility
- Design guidelines