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

Michael Jae-Yoon Chung and Maya Cakmak

University of Washington

W **PAUL G. ALLEN SCHOOL**
OF COMPUTER SCIENCE & ENGINEERING

savioke

WALLY
THE BUTLER
At your service

Residence
Inn
Marriott

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)
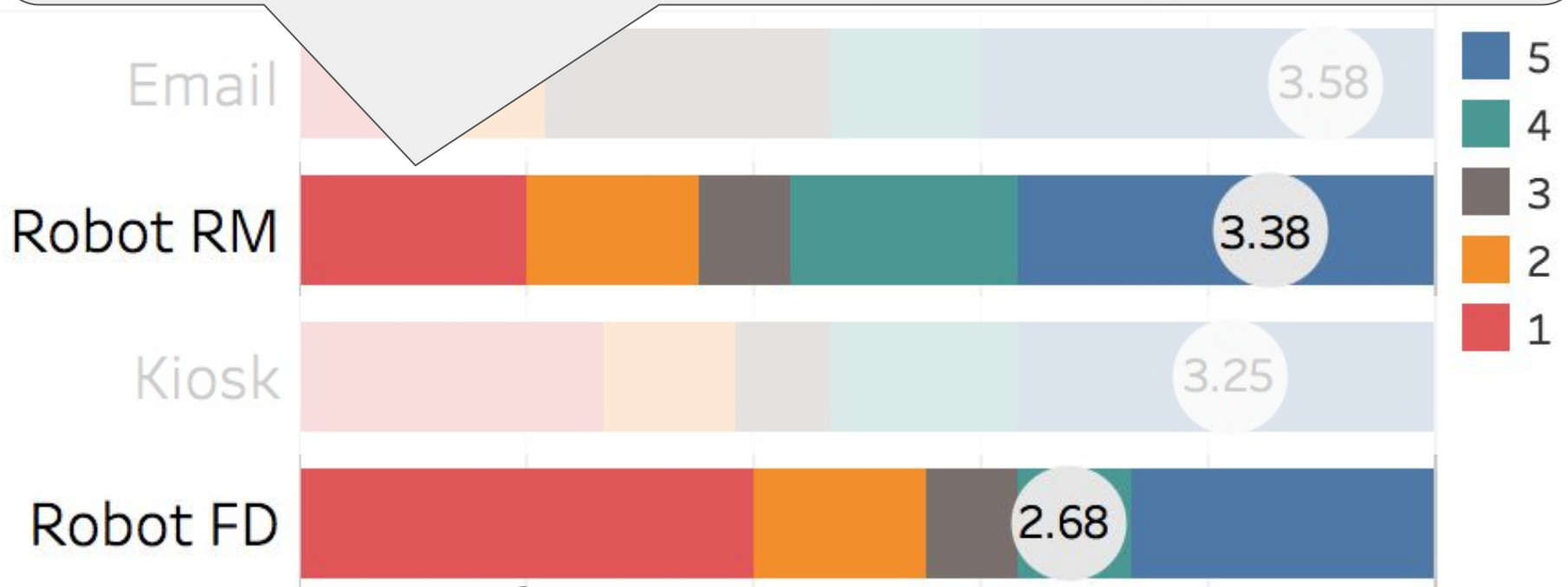
    2. At 1 company kitchen (1 month)

Need Finding: Results

- 👍 = Disseminate widely

- 👎 = Respond immediately

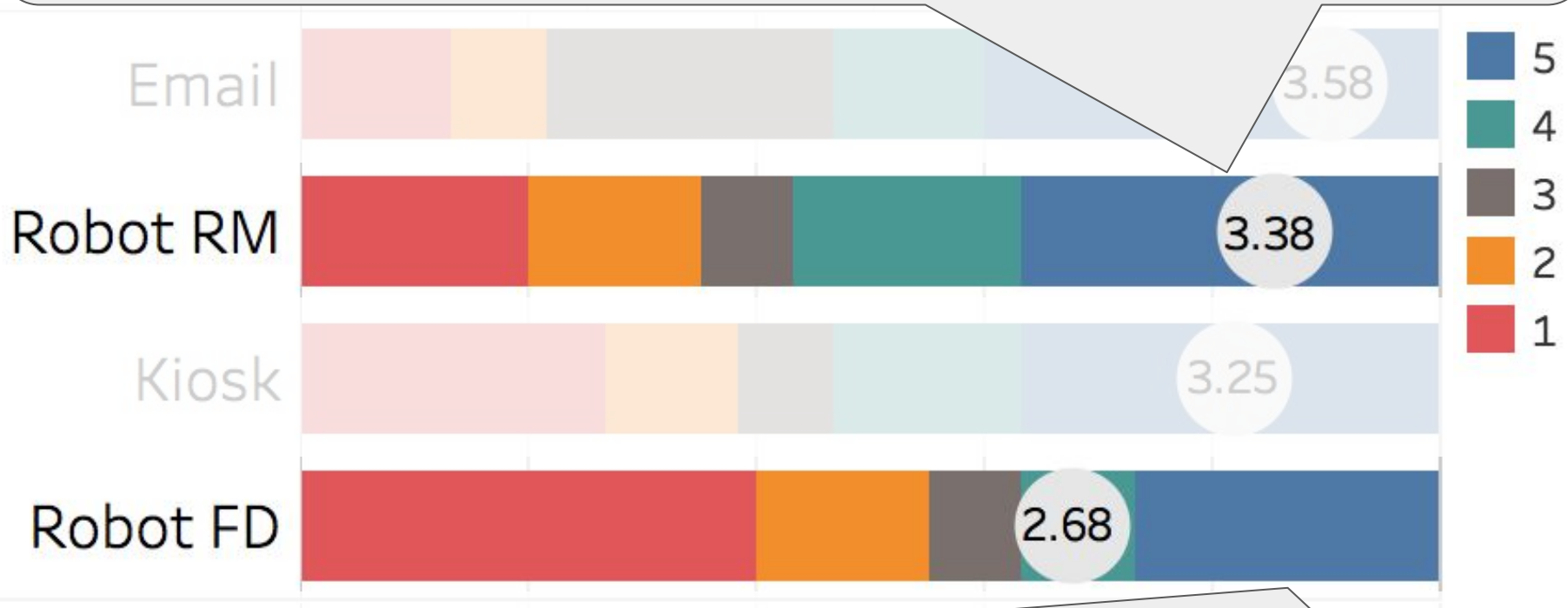# Online Guest Scenario Survey

- 60 participants from Amazon MTurk

- A positive or negative scenario

- 4 solicitation conditions

  - 5-point Likert scale question

  - Open-ended question

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
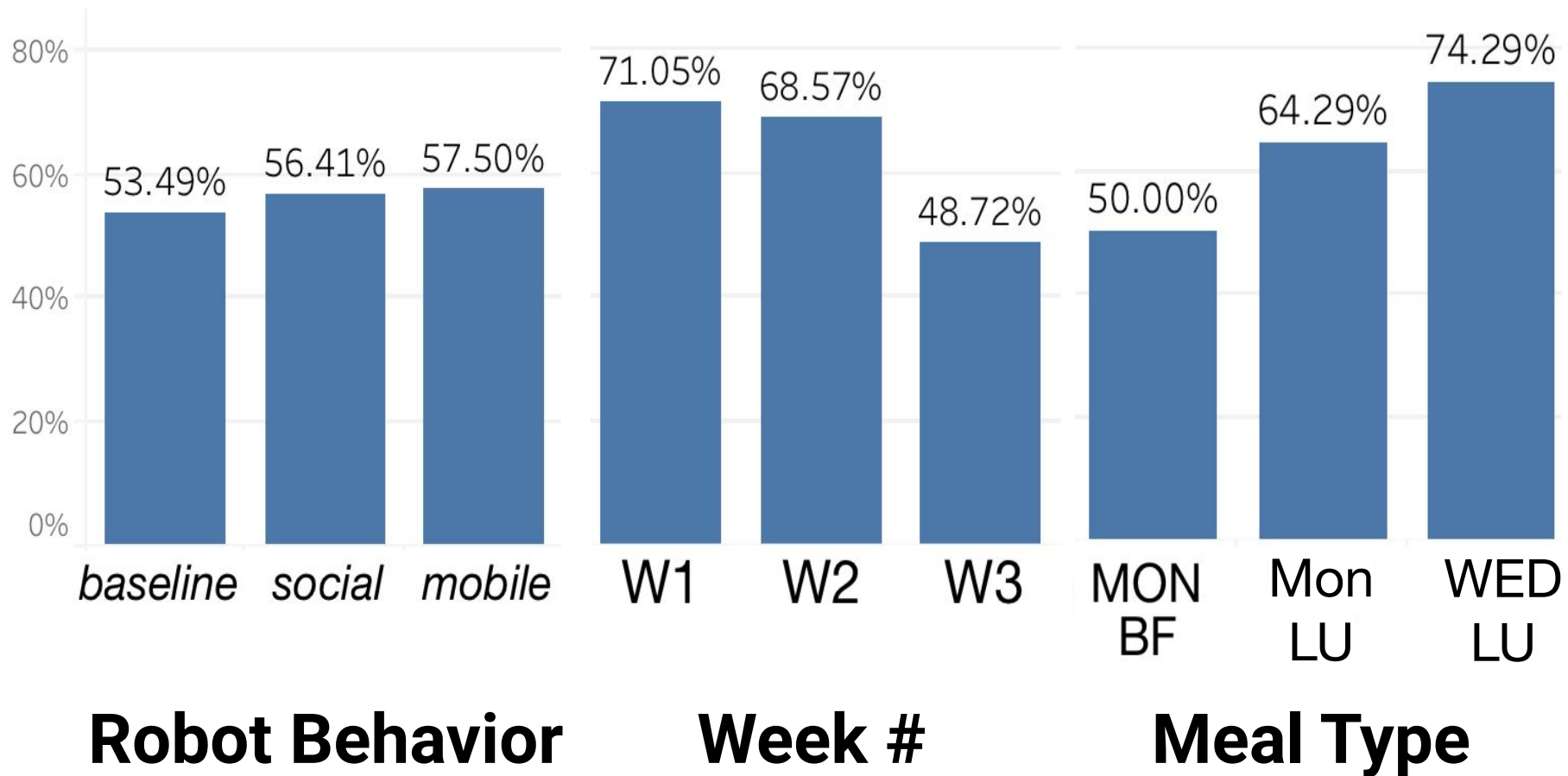
Change in Customer Perception of the Service

"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