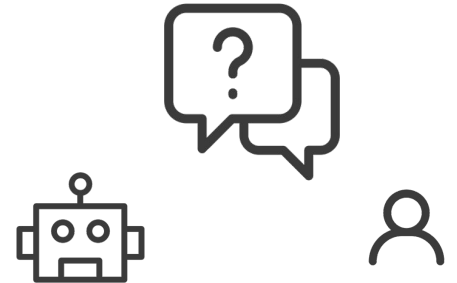# Metaphors in Conversational User Interface

EN. 601.792.01

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Department of Computer Science
Spring 2024

- Office Hour: Tue. 4-5pm Malone 309
- Course Website:
  https://adv-conv-ui.cs.jhu.edu/sp24/index.html
- Piazza: https://piazza.com/class/lrp2hge6oz845x/
- Canvas:https://jhu.instructure.com/courses/63649
- Course Format: **In person**, **Research-focused**,
  Discussion-based

Announcement

🧑‍🔬 **Scientific Reviewer**

🏺 **Archaeologist**

🍜 **Academic Researcher**

💰 **Industry Practitioner**

🕵️ **Private Investigator**

🌎 **Social Impact Assessor**

Discussion Roles

Metaphors

"Understanding and experiencing one kind of thing in terms of another"

Lakoff, G., & Johnson, M. (1980). Metaphors we live by. University of Chicago, Chicago, IL.

happy is often up while sad is down

We're out of trouble now.

Your claims are indefensible.

That flat tire cost me an hour.

Orientational Metaphor - Up is good

happy is often up while sad is down

Container Metaphor

We're out of trouble now.

Argument is war

Your claims are indefensible.

Time is money

That flat tire cost me an hour.

Metaphors are

Social Constructs

Symbolic representations of reality that affected by how people interact.

Why Metaphors

Metaphors can help us to build the mental model abstract and novel things.

Metaphors in Design

Set the theme: Metaphors help establish a theme for how a design will work. This helps align the designer's vision with the user's expectations.

Help organize thinking: Metaphors can help organize design thinking and solve ill-defined design problems.

Generate ideas: Metaphors can be used to generate ideas or understand new topic areas.

Guide users: UX designers can use visual metaphors to guide users over roadblocks.

Communicate symbolic ideas: Visual metaphors can communicate multiple symbolic ideas simultaneously.

Hartson, R., & Pyla, P. S. (2018). *The UX book: Agile UX design for a quality user experience.* Morgan Kaufmann.
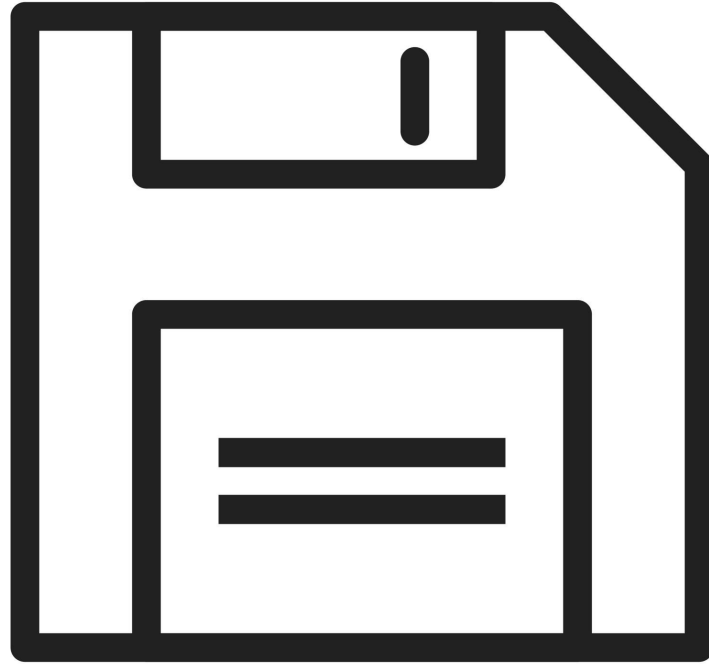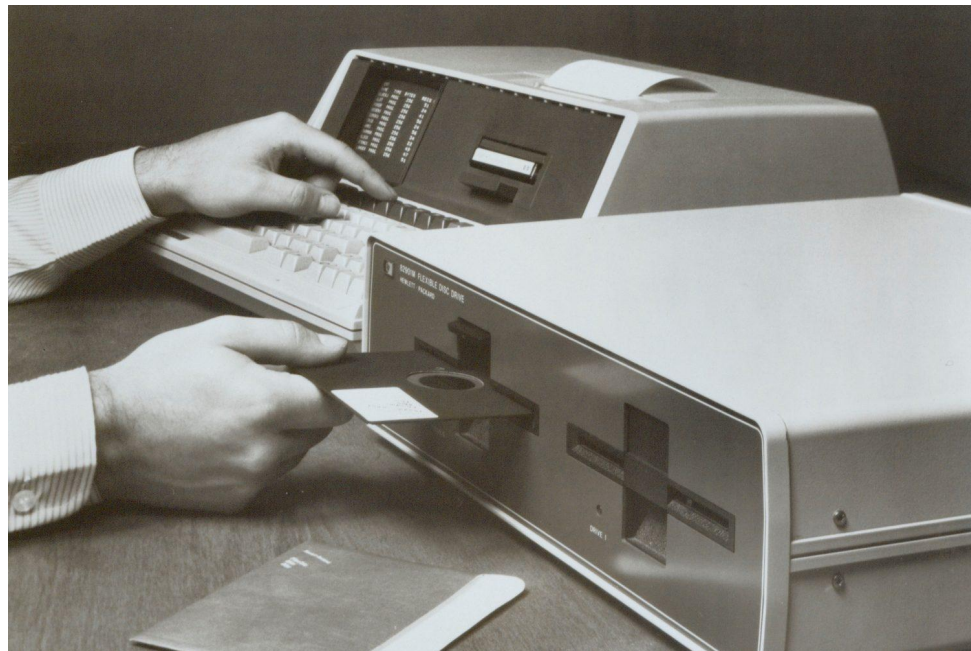
Metaphors

in Conversational User Interface

Computers are social actors (CASA) Paradigm

Humans mindlessly apply the same **social heuristics** used for human interactions to **computers** because they call to mind similar social attributes as humans.

Nass, C., Steuer, J., & Tauber, E. R. (1994, April). Computers are social actors. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 72-78).

How do you describe your voice assistants/ChatGPT?

How does it related to your interaction with it?

Case Study: The role of metaphors Voice Assistant Design

Xiao, Z., Mennicken, S., Huber, B., Shonkoff, A., & Thom, J. (2021). Let Me Ask You This: How Can a Voice Assistant Elicit Explicit User Feedback?. Proceedings of the ACM on Human-Computer Interaction, 5(CSCW2), 1-24.
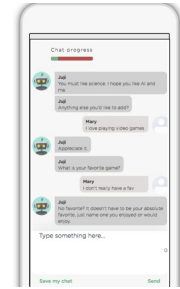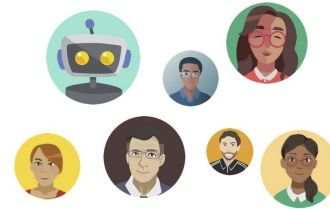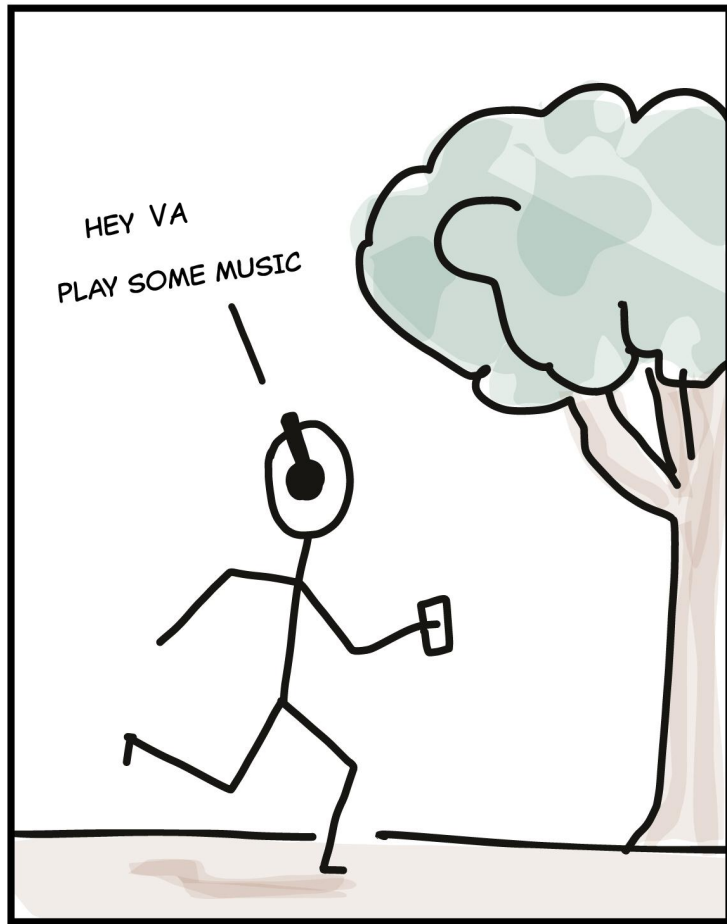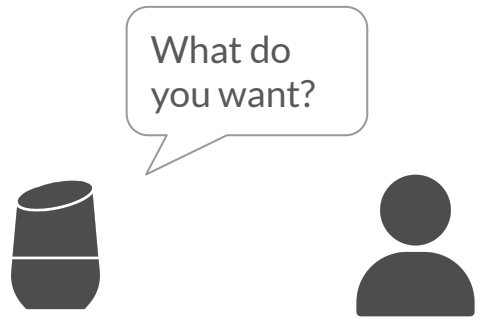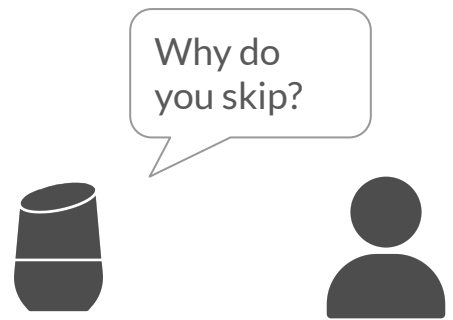
Explicit user feedback in situ...

- Capture user preferences in a more direct and granular way

- Informs the model performance through user perspectives

- Avoids memory biases during recall

- Contains rich contextual information

Challenges

- Explicit user feedback is scarce, especially for voice interactions.
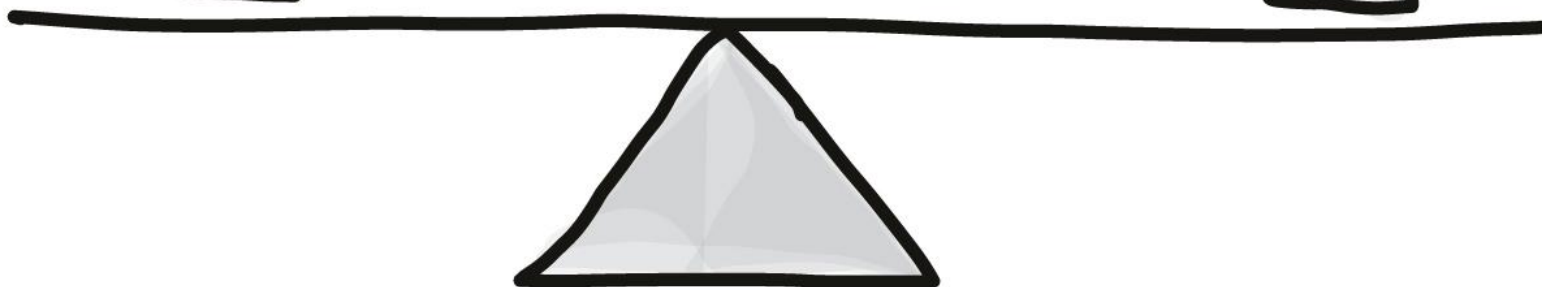
- Frequent feedback request may induce user experience frictions.

- No existing design guideline for voice assistants to ask for explicit user feedback.
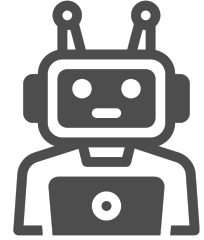
How should we design voice interactions to collect user feedback while maintaining user engagement?

Metaphors: Who is the voice assistant?

A voice assistant
- **helps** the user with daily tasks [*Assistant*]
- is **always learning** how to better help the user with daily tasks [*Learner*]
- **collaboratively works** with the user on daily tasks [*Collaborator*]

People are **more willing** to respond to a **learner** VA or a **collaborator** VA's prompt and perceive it as **less disruptive**.

Using AI as metaphors?

See you on Wednesday!

Before you go,
1. Find a team
2. Sign up for presentations
3. Discussion group assignment
4. Readings for future weeks are coming