

# Towards Responsible Verbal Guidance in Human-Robot Interaction

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## Why this matters

Robot guidance is often treated as a usability detail, but even small wording choices can shape action, error recovery, and trust [4, 8, 2].

### Motivating Examples

- “Place it on the right.” — Whose right?
- “Do not place it there.” — What is the alternative?

Such instructions can create ambiguity and increase processing demands [8, 2].

We treat verbal robot guidance as an ethics-by-design issue. The ethical impact of an instruction depends not only on what is said, but also on how task demands shape understanding and response [5, 4].

## Contributions

This work contributes an ethics-by-design framing for verbal robot guidance, a compact task-model perspective, and five design principles for spoken HRI.

## Task model perspective

A task model perspective helps to identify where wording choices become ethically relevant, for example when ambiguity, repair, or risk shape how instructions are understood and acted upon.

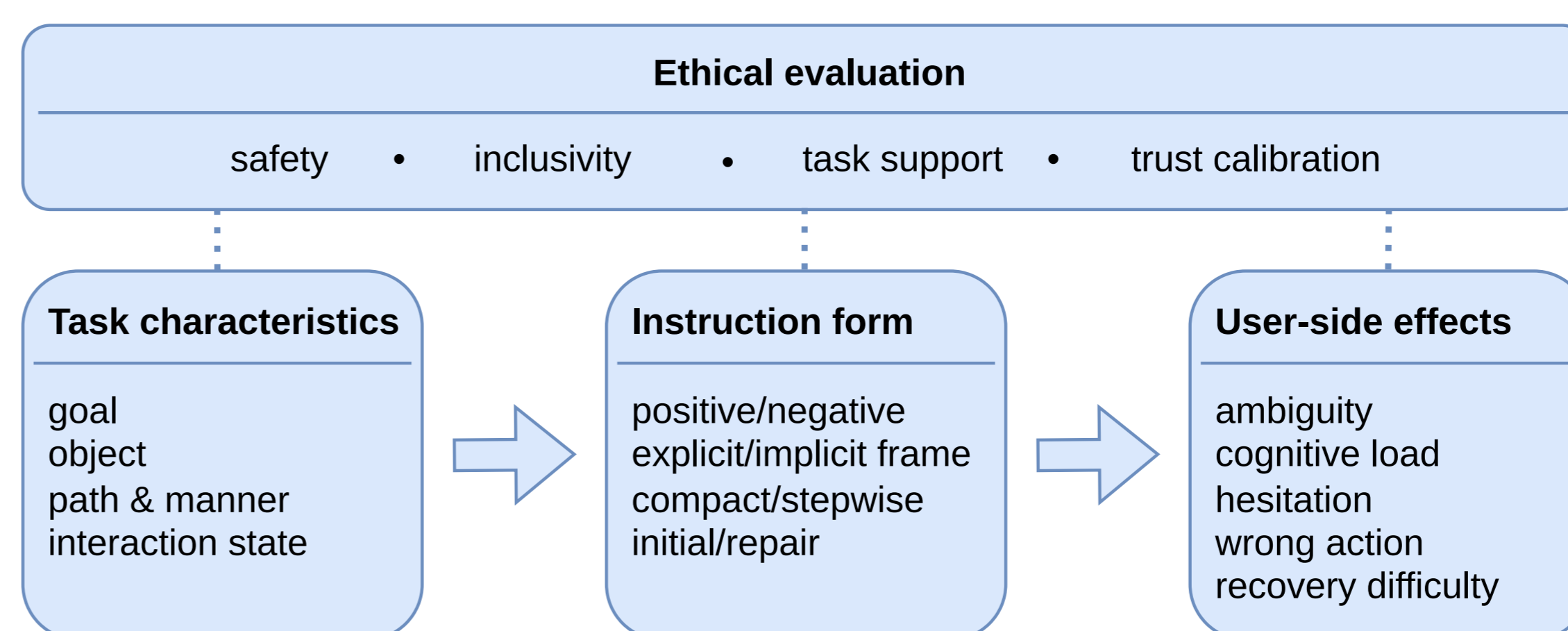


Figure 1. Overview of the relation between task characteristics, instruction form, user-side effects, and ethical evaluation.

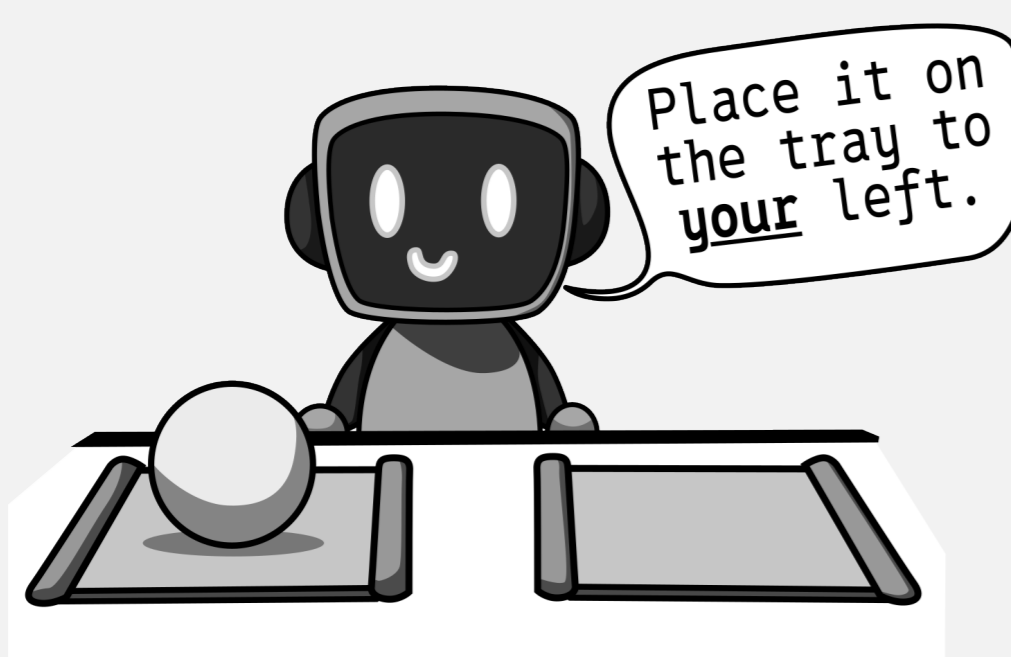
### Core claim

Robot ethics is also about how robots phrase instructions when guiding human action.

## Five Design Principles

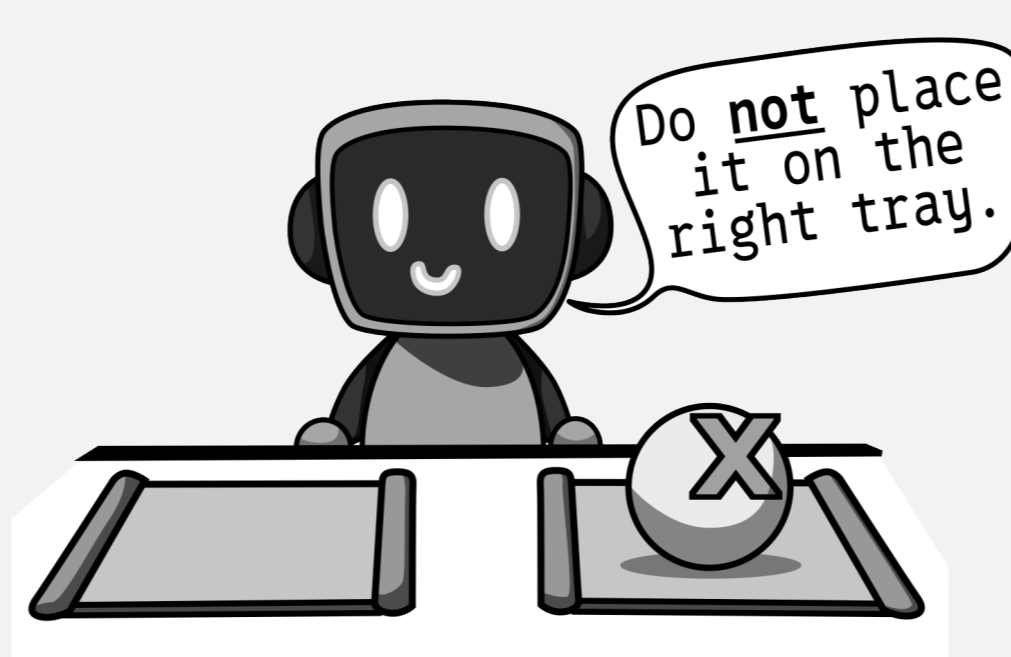
### 1. Make the reference point explicit

Terms like *left* or *right* need a clear perspective [8].



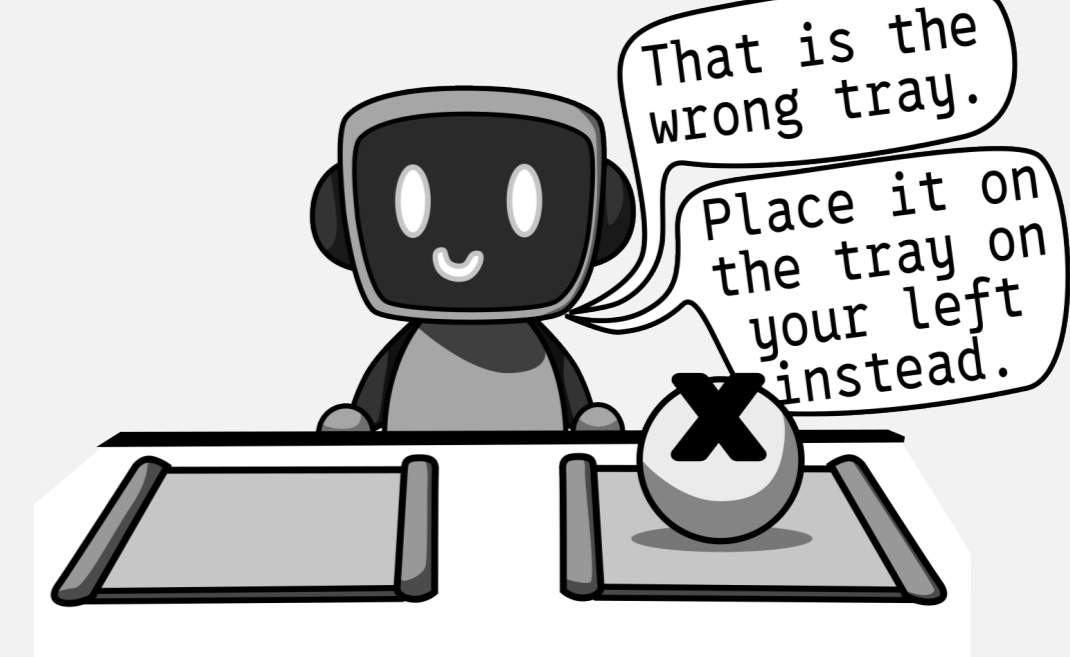
### 2. Use negation mainly to interrupt errors

Negation is cognitively demanding, but useful when a wrong action must be stopped quickly [2].



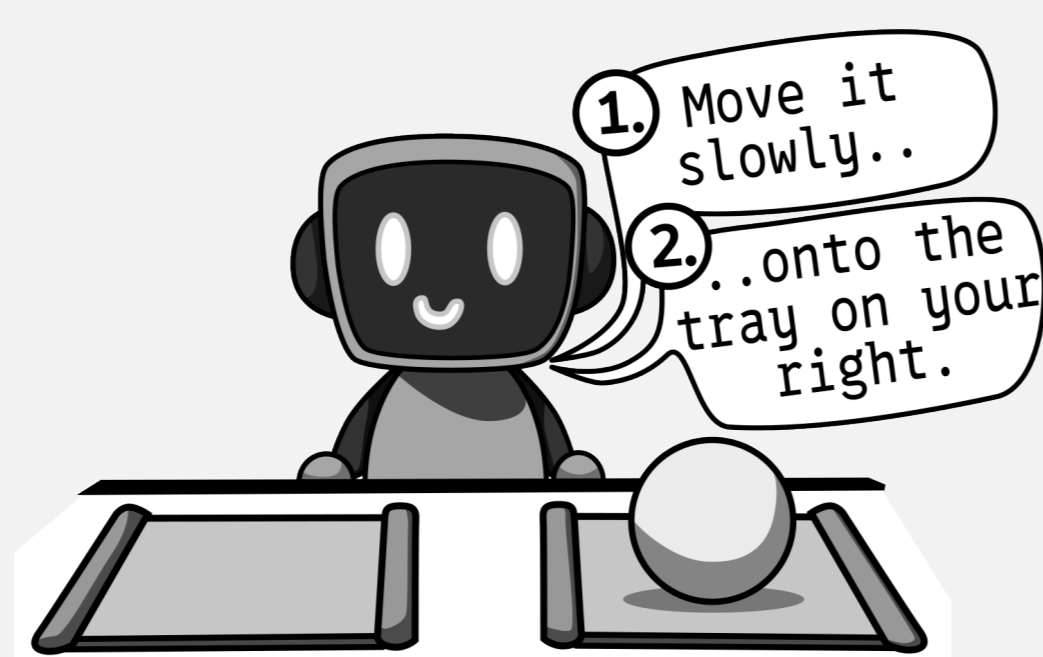
### 3. Separate error marking from repair guidance

First indicate the problem, then explain the next step [7].



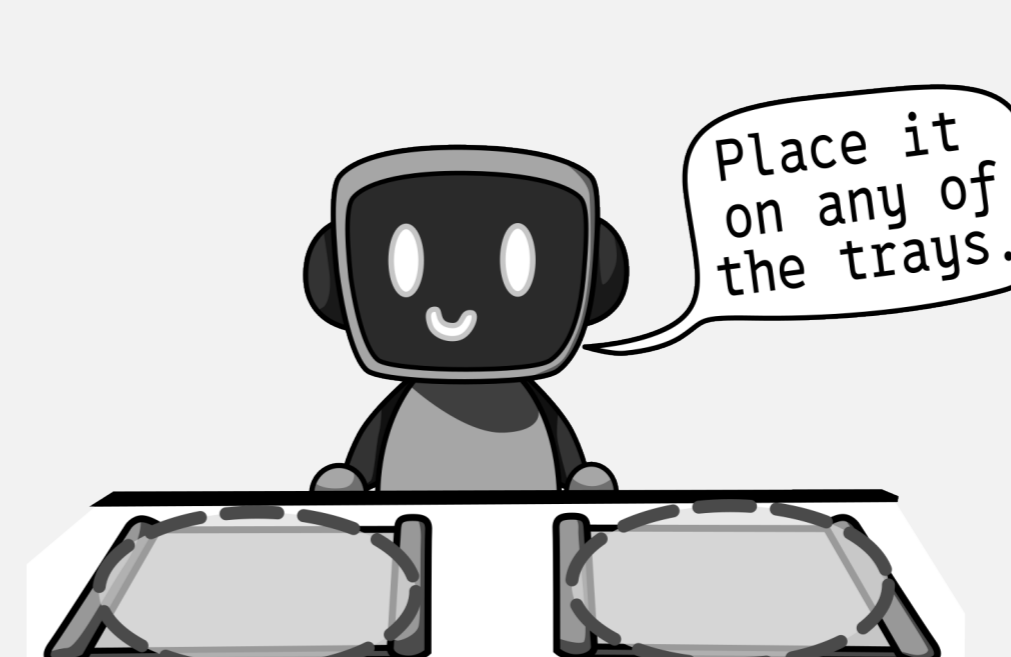
### 4. Order constraints by priority

State safety-critical constraints before secondary preferences [6].



### 5. Avoid unsupported precision

Robot wording should reflect actual certainty and avoid overconfidence [3, 1].



## Take-home message

Robot ethics concerns not only what robots should do, but also how they should communicate when guiding human action.

## Selected references

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