

Communicating through movement

How can an inanimate object express expectations through movement patterns, and trigger certain behaviors in the spectator?

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Interaction Engineering WS 22/23 | Prof. Michael Kipp | HSA





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Conceptual base



Basic interaction

entity 1



interaction

observation
interpretation
anticipation
convention
trial-and-error

entity 2



Questions

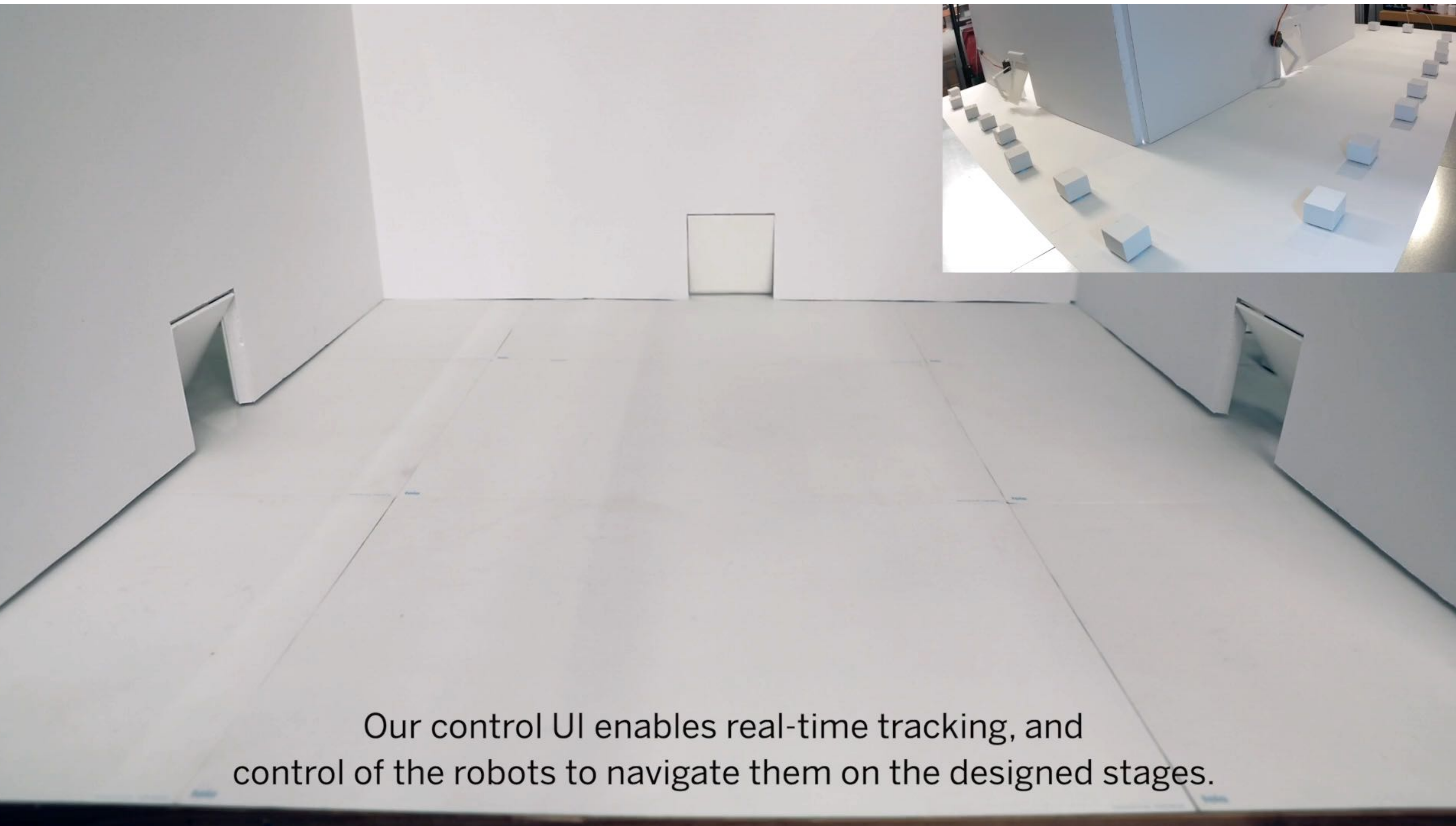
Human nature allows us to observe, interpret and adapt to another (potentially foreign) entity's behavior.

- ➔ When we want something from somebody/something we don't understand, what do we do?
- ➔ How minimal can communication be for us to understand basic needs of another entity?
- ➔ How sensitive are we to minimal nonverbal signals, like movement?
How do we read movement?

Related works



Related works



(Dis)Appearables
MIT Tangible Media Group



Pinokio
Adam Ben-Dror

Scenario



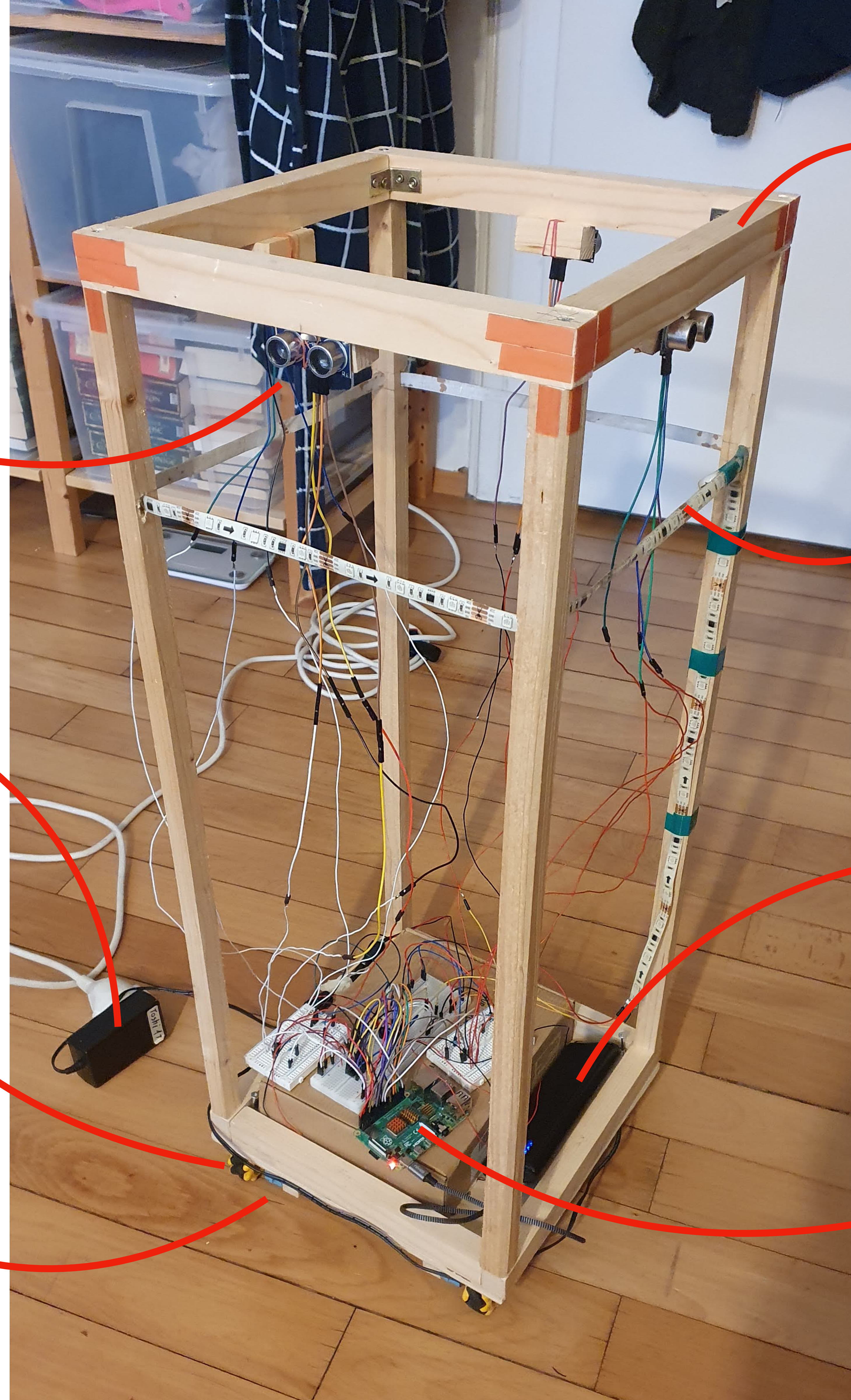
Scenario



Technical setup



Setup



wood frame

ultrasonic distance sensor

LED strip

12-V power supply

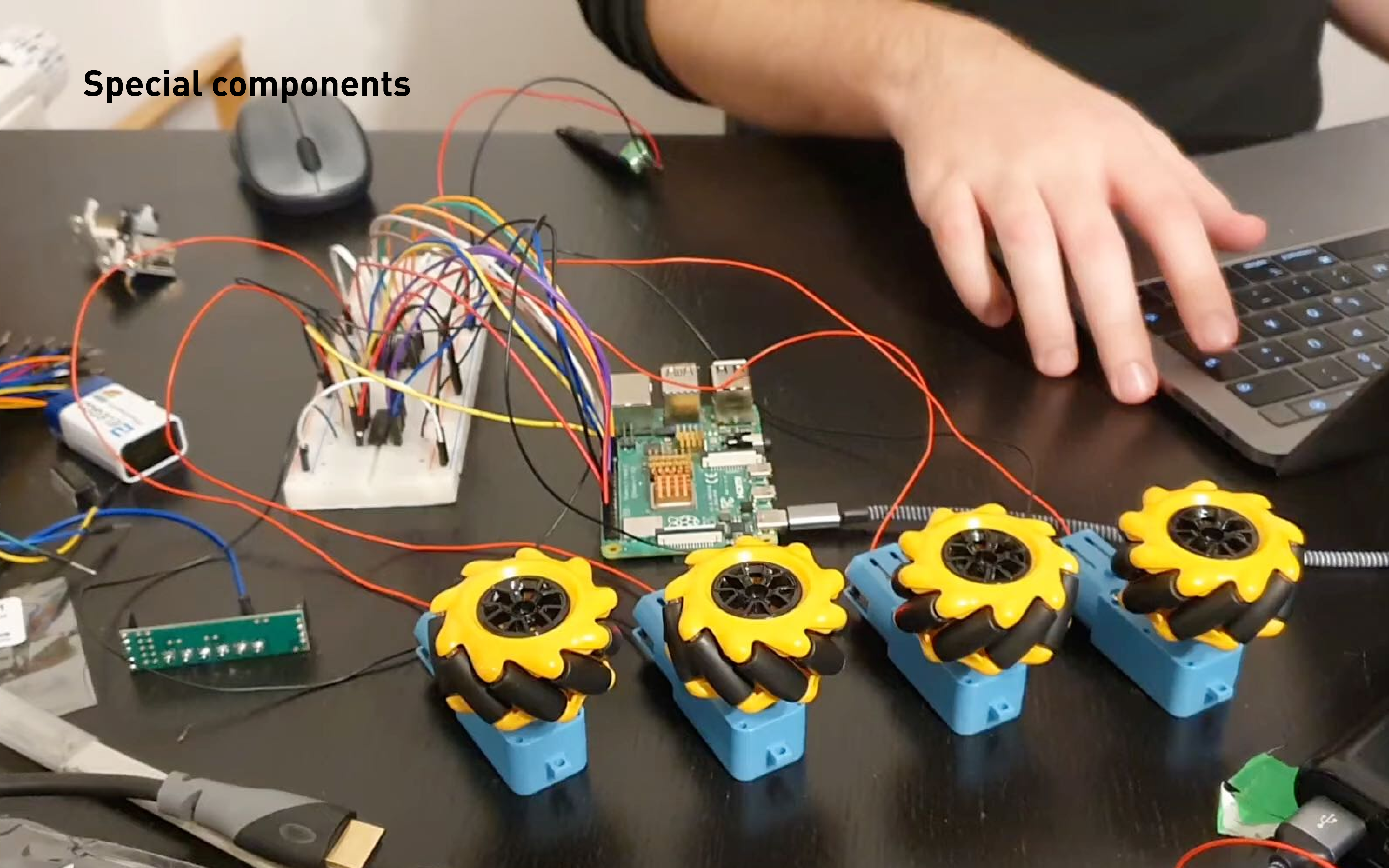
power bank

omnidirectional wheels

Raspberry Pi 4

Adafruit TT Motors

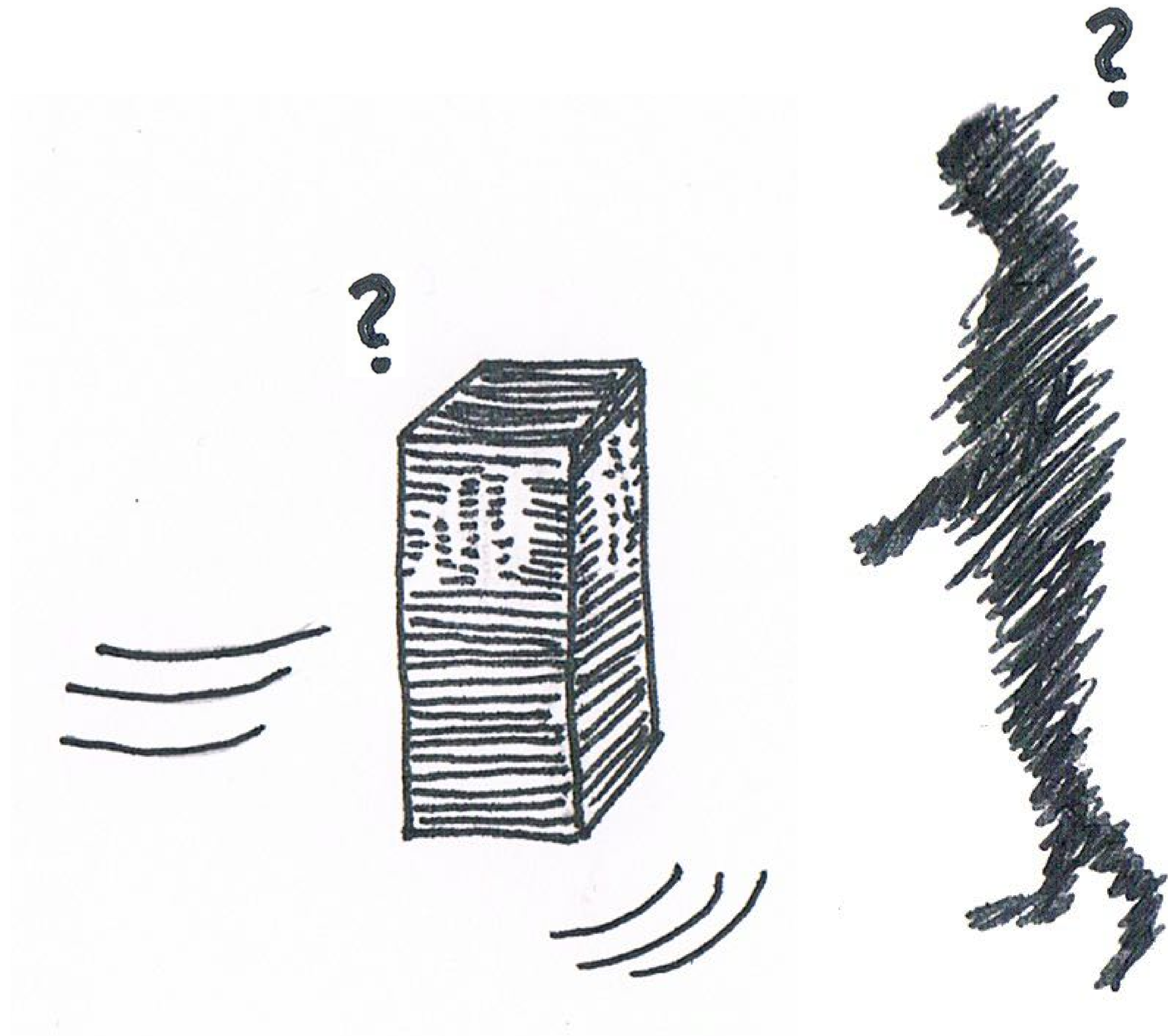
Special components



Interaction



Interaction



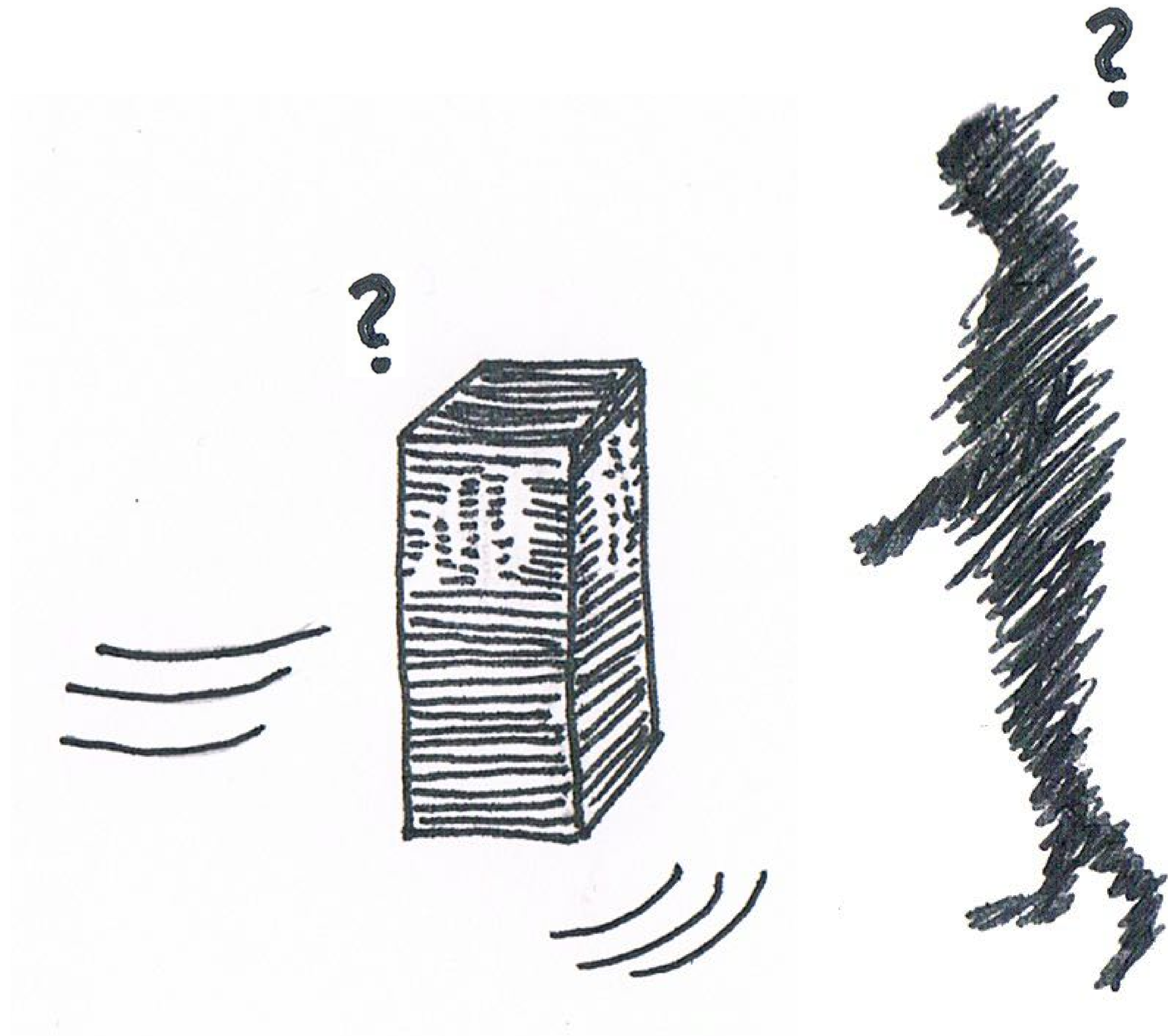
3 modes | 5 reactions

- ① ...
- ② ...
- ③ ...
- ④ ...
- ⑤ ...

Entity feedback:
movement, lights

➡ What attributes do you isolate?

Interactions



3 modes | 5 reactions

- ① attack / defensive / intimidation
- ② shyness / sadness
- ③ excited / happy / outgoing
- ④ fear / flight
- ⑤ disinterest / disregard

Entity feedback:

movement, lights

➔ What did you see?

Thanks