

# Action segmentation: finding cognitively plausible action primitives

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**Issue:** To what extent does the representation of reaching and grasping movements contain specific information about the way movements are made with regard to basic movement primitives?

**General goal:** To find cognitively plausible action primitives that can be used in a robot to create more complex actions through chaining.

Investigate the role of cognitively plausible primitives through :

- Perceptual segmentation
- Judgment of action naturalness
- Action naming
- Action discrimination
  - e.g., power vs. precision grips (Borgi & Riggio, 2009)

**Method:** Record power and precision gripping actions using motion capture (fig. 1).



Figure 1. The shape-hand motion capture system

**Conclusions and applications:** Action primitives that distinguish between power and precision grips can be used to model (e.g., the chain model (Chersi et al., 2006) more complex reaching and gripping actions.