## PROBLEM SPACE OF DESIGNING A ROBOT

What is the problem worth solving? Define it clearly through the user and the robot.

## USER(S)

## Group(s) Needs Characteristics Name the user group(s). What needs do these characteristics What characterises the user lead to? group(s)? Goal(s) What goal is the user trying to accomplish with the robot? What advantage are they gaining by using a robot? short-term long-term **Ethical considerations** Use the separate ethics canvas to examine the ethical considerations, which emerge in the boundary between the robot and the user. Task(s) What task(s) is the robot aiming to fulfil for the user? short-term long-term Advantage(s) What is the potential advantage and added value of using a robot in this solution, as opposed to other technologies, or people? Consider long and short-term advantages. Think about the list below, and color in where you think they'll be useful. Are there other advantages? Social competence Are social skills an advantage? Personalization Can the robot bring joy through recognizing specific users? **Emotional response** Does the robot generate an emotional response for the user that can't be achieved with other tech? **Precision** Can the robot do something more precisely than a human? Mobility Is mobility an advantage? **Environmental manipulation** Is environmental manipulation an advantage? Can the robot use sensors the gain an advantage? Sensing

## **ROBOT**

Can the robot be connected to other technologies like humans can't?

short-term

Connectivity to technology

long-term