What a healthcare worker wants, what a disabled person needs: Exploring stakeholder design tensions in assistive robotics

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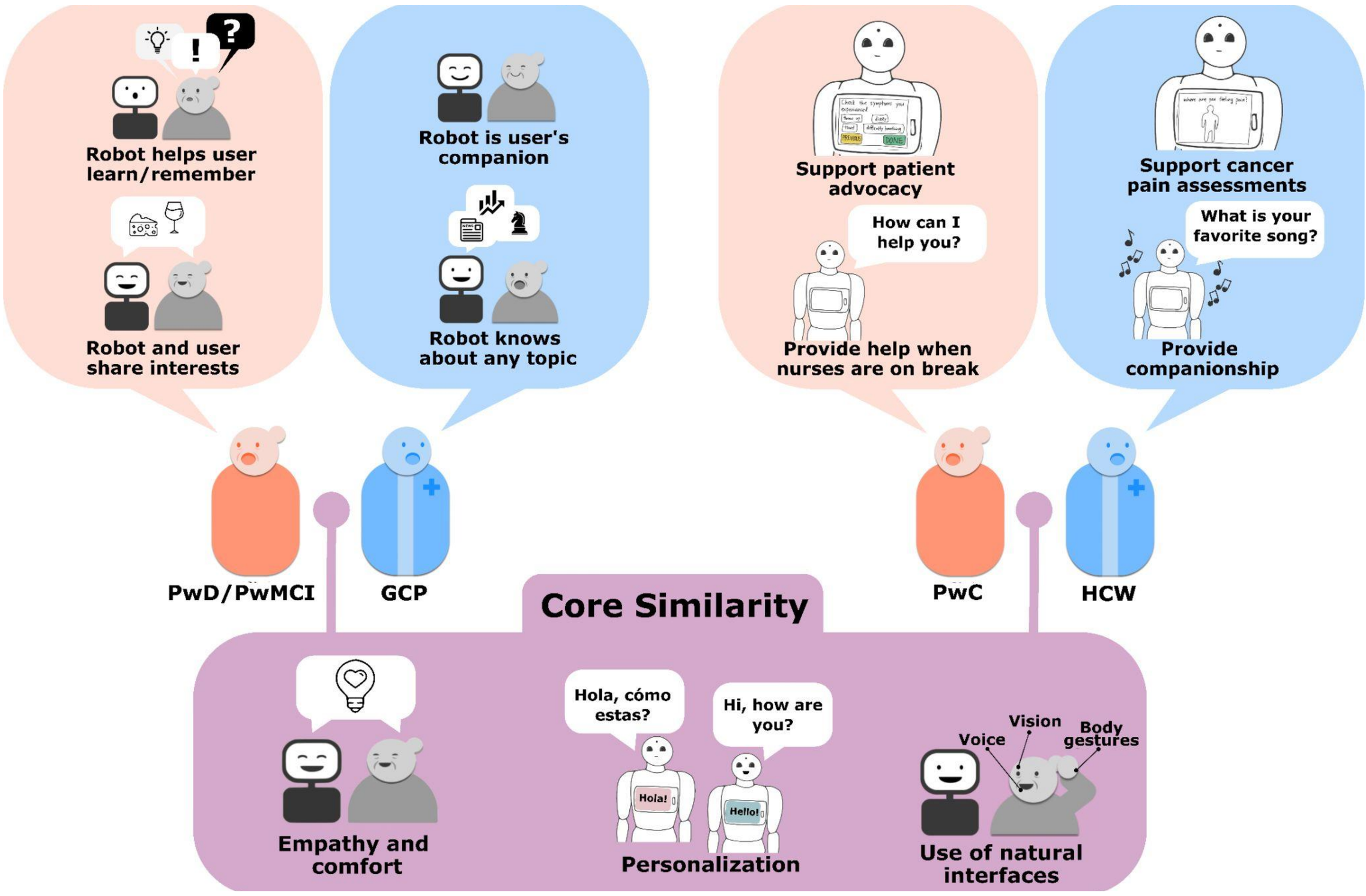
While disabled people are typically the primary users of assistive technologies, other stakeholders (e.g., family members, healthcare workers), may be closely involved in the design process. This can give rise to **design tensions,** which can be challenging to mitigate. To exemplify these tensions, we report on two case studies from our ongoing work co-designing assistive robots with disabled people and healthcare workers. The first included co-designing with people with dementia (PwD) and people with mild cognitive impairment (PwMCI) [1], and the second people with cancer (PwC) [2].



Navigating tensions

- **Identify whose voices to include**: use literature and lived experiences of the community to guide the selection of relevant stakeholders.
- **Identify whom to prioritize**: consider whose perspectives to prioritize when tensions arise.
- **Sample sizes**: represent disabled populations without being extractive.
- **Reorient perspectives**: encourage perspectives, but don't let one group assume the needs of another, and instead focus on their own needs.

Factors for consideration

- **Health condition**: Could inform the different mental models of stakeholders, and their expectations for the role of the robot.
- **Period of interaction**: Could affect how stakeholders envision sociability of the robot.
- **Location of deployment**: Could inform stakeholders' vision for the robot's physical design.

[1] Cruz-Sandoval, D., Kubota, A., Guan, C., Kim, S., and Riek, L.D. “Robot characters: Co-designing dynamic personalities for cognitively assistive robots”. In Review, 2024.
[2] Jayaraman, S., Kim, S., Satyadharma, S., Taylor, A., Coyne, C., and Riek, L.D. “Robots for Compassion: Envisioning Technologies for Cancer Care Delivery”. In Review, 2024.

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