

Designing the future of paediatric assistive mobility

An introduction to present day paediatric wheelchair design

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A. Issues around the design of paediatric powered wheelchairs currently available on the market, classified under four meta-levels:

1. Viability
2. Functionality
3. Usability
4. Desirability

B. Brief history of paediatric assistive mobility and the evolving relationship between disability, childhood & mobility:

- Narratives of **disability**, past and present through different cultures (socially and physically)
- Narratives of **childhood** past and present through different cultures (respect, control & power)
- Narratives of **mobility** past and present through different cultures (status, lifestyle, convenience)

C. Contextualising the evolution of tools & methods surrounding paediatric mobility:

- Viewing design as an opportunity to enhance capabilities and imagine life beyond the 'typical'; aiming for superior or idealistic scenarios
- **Case studies in parallel areas** (cyborg super-senses, custom prosthetic legs, Exoskeletons...) Changes in narrative over time - Impairment > Disability > Ability > Superability...
- **Highlight knowledge and research gaps** from design point of view and core DESIGN research questions around paediatric mobility.
- **Outline aims and methodology/approach to study:**

Aim 1: To capture the requirements, issues, principles, and state of the art from the three key mobility stakeholder groups: designers and assistive technology developers, healthcare professionals, children and families, and map the interrelationship of insights against the four meta-levels: Viability, Functionality, Usability and Desirability. Identify priorities and principles of each key stakeholder group in extreme contexts, and co-imagine ideal future circumstances.

Aim 2: To synthesise the mapped priorities and principles into a design framework, and identify potential design opportunities for the future of paediatric assistive mobility.
- **Summary of thinking and expected outcomes/deliverables**
- **Introduction to Project MOVE initiative** (clarifying its differences from this PhD research)