



University of the Philippines - Manila
College of Allied Medical Professions

Co-creating mobility devices in less-resourced settings: A collaborative approach in developing an appropriate mobility device for Filipino children

Jona Flor S. Villarido and Peñafrancia E. Ching

19th WFOT Congress 2026 | Bangkok, Thailand
Inspiring Change, Innovating Futures



- Only 5–35% of the estimated 80 million people who require a wheelchair have access to one.
- Wheelchairs with postural support: 17th in the most prevalent assistive devices needed in surveyed countries

(World Health Organization [WHO], 2022)



Meet: JJ, Male, 19 years old
📍 Philippines



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Goal:

- To provide **appropriately fitted wheelchairs** that offer **adequate postural support** for Filipino children with conditions such as cerebral palsy





Objectives:

- Discuss the factors that determine what an appropriate device is for less-resourced settings.
- Describe the process undertaken in co-creating an appropriate mobility device with other professionals.

Appropriate Mobility Device (WHO, 2015)

1. Meet the user's needs
2. Fit environmental conditions
3. Provide proper fit and postural support
4. Are safe and durable
5. Are available in the country
6. Can be obtained and maintained with services sustained in the country at the most economical and affordable price





Wheelchair Service Provision Challenges

GLOBAL

(WHO and UNICEF Global Report on Assistive Technology, 2022)

Inadequate product range

01

High costs

02

Capacity gaps and low awareness

03

LOCAL

(Xavier & Garcia, 2017)

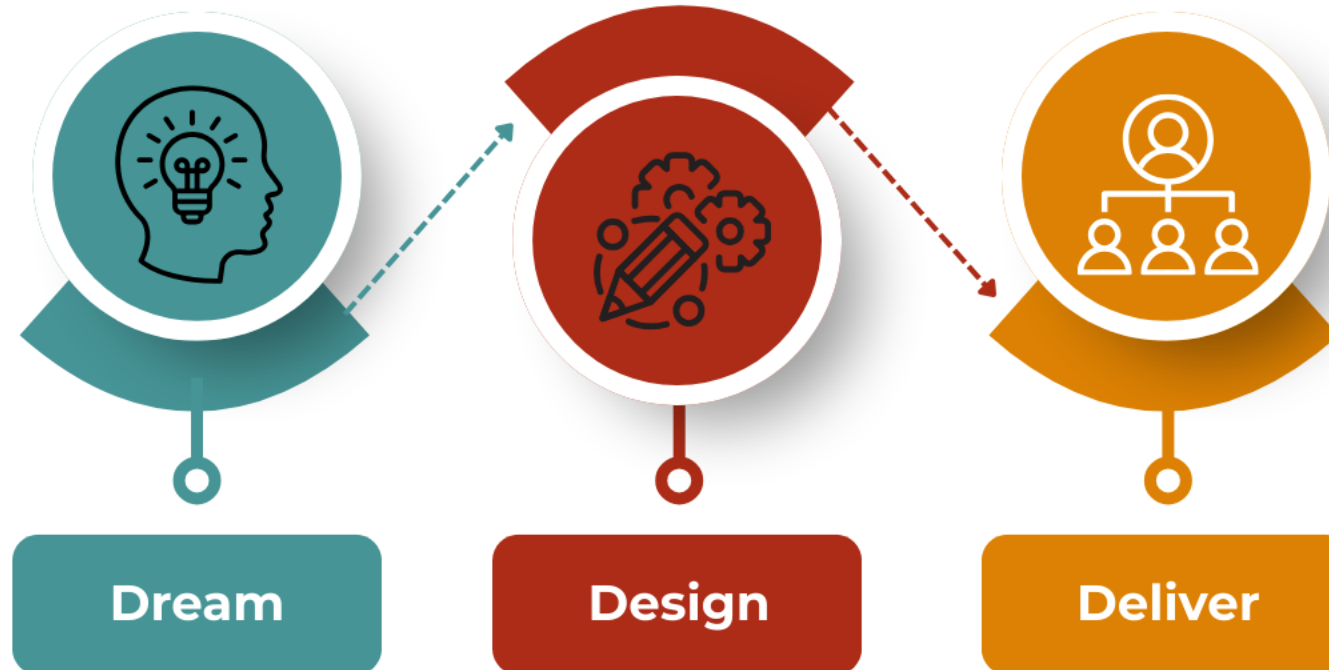
Limited access to products

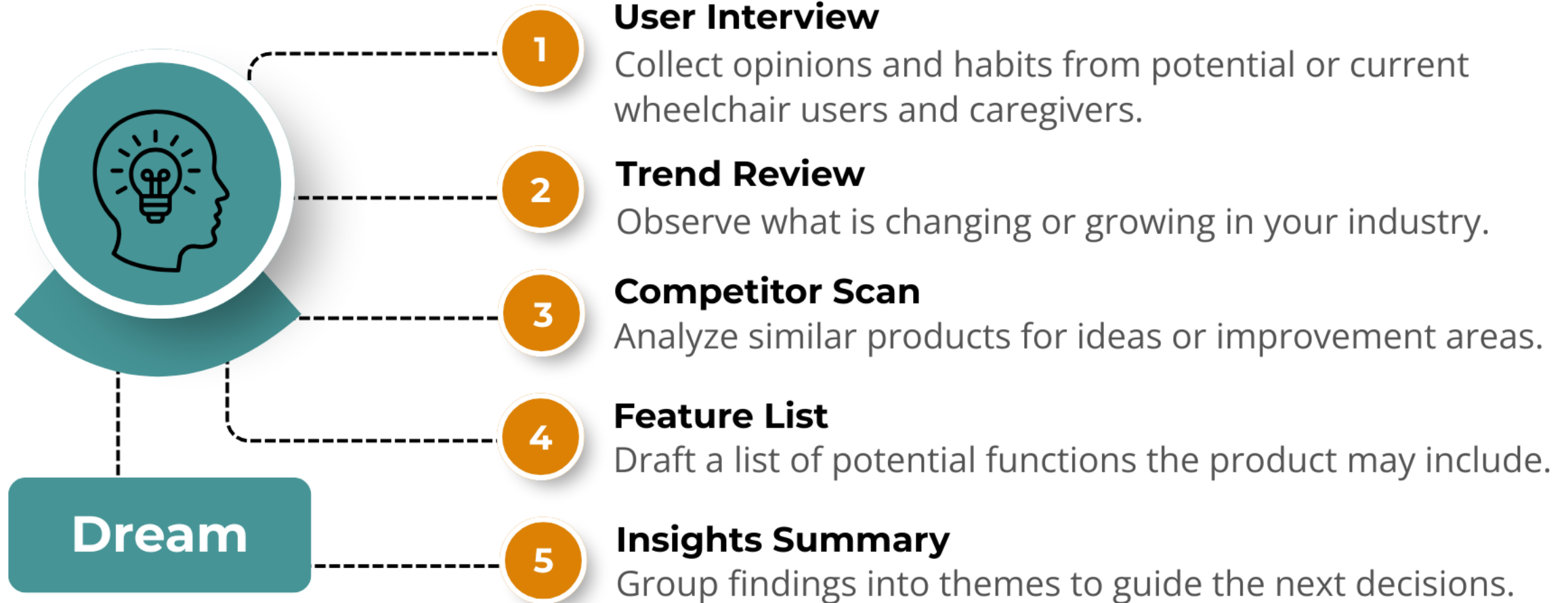
Limited local services and service providers; No local manufacturer

Limited capacity building and knowledge on PWDs' rights, appropriate mobility devices and services

Process of Co-Creating Mobility Devices

Conversations Leading to Innovations through Collaborations (CLIC) Framework



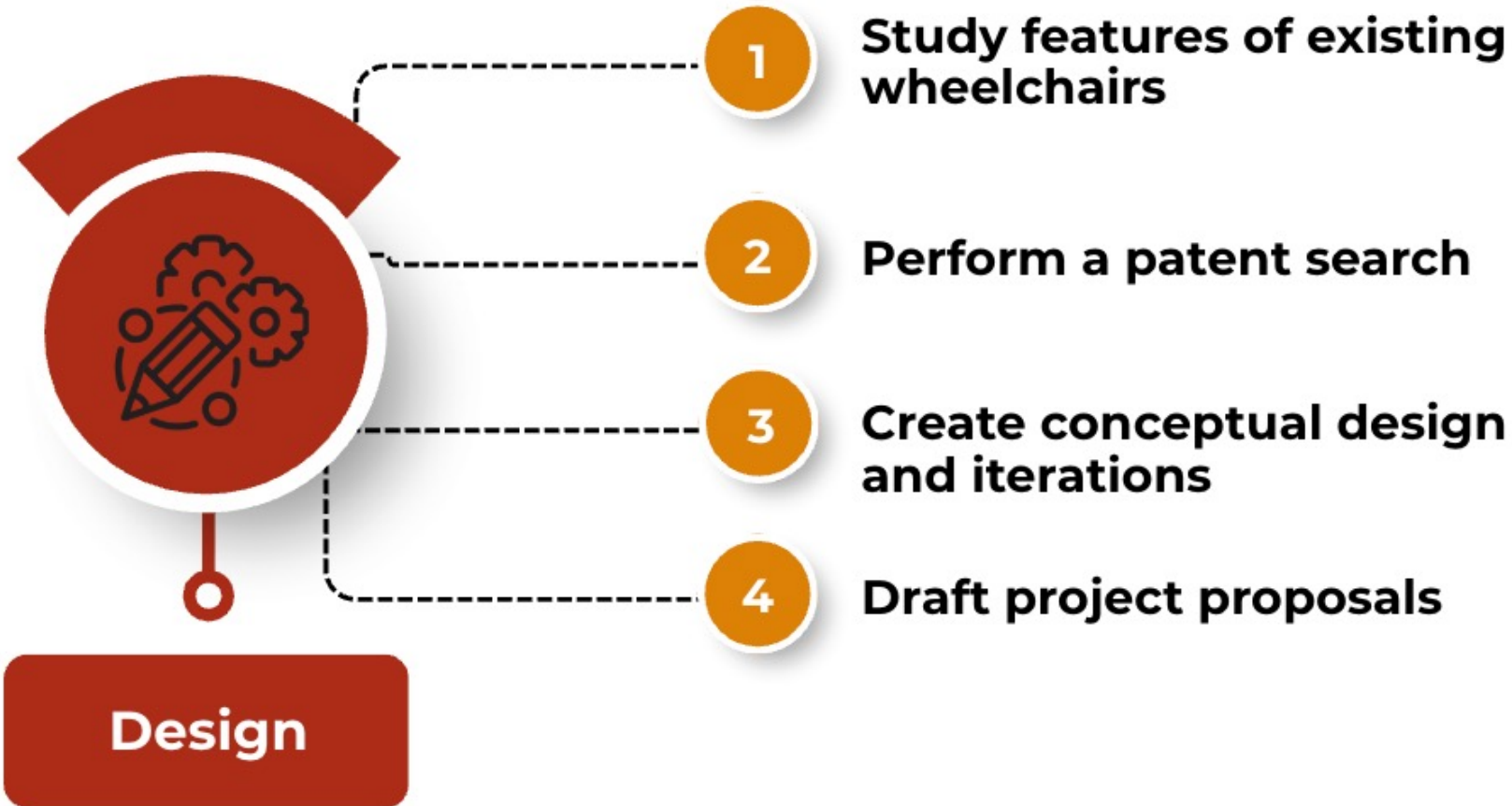




User Interview

Results from the user's needs interview show the following preferred wheelchair qualities:

| Priority Features | Optional Features |
|---------------------------------------|-------------------|
| Tilt and recline features | Lightweight |
| Foldable | Affordable |
| With postural support and adjustments | |
| Available parts in the country | |

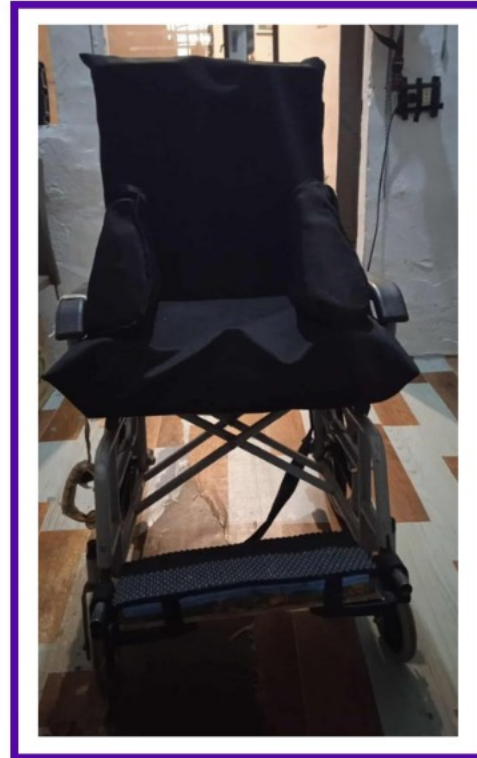
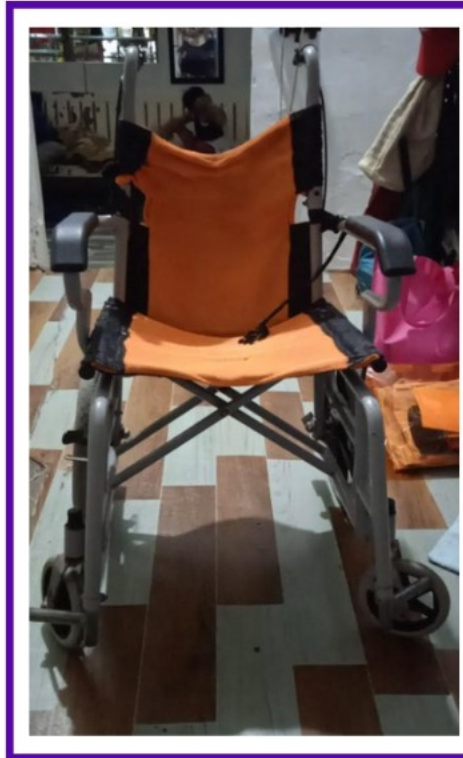






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Retrofit a basic chair to a supportive one



KC's retrofitted chair



Practice Implications of Co-creating Mobility Devices

- 1 Family Involvement:** Strengthens client-centered practice by engaging caregivers in design decisions.
- 2 Education & Advocacy:** Raises awareness of the importance of well-fitting devices and promotes proper use and maintenance.
- 3 Framework for Collaboration:** Supports interdisciplinary teamwork between OTs, engineers, and other stakeholders.

Practice Implications of Co-creating Mobility Devices

4

OT Contribution: Provides insights on user needs, functional goals, and features that enable participation in valued occupations.

5

Engineering Contribution: Provides mechanical knowledge and ensures devices are structurally sound, safe, and functional.

6

Business Stakeholders: Analyzes the market, feasibility, and costs, and manages production and pricing strategies to make sure the device stays within users' budgets.



Conclusion

- 1 The co-creation of mobility devices highlights **interdisciplinary collaboration**, combining **OTs' understanding of user needs** and goals with **engineers' expertise in safety, durability, and function**.
- 2 Involving families deepens **client-centeredness** and **expands their vision of what is possible** for their child.
- 3 Co-creating mobility devices offers a **practical model for improving access to appropriate solutions** in resource-limited settings and **changes how we collaborate**.



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**Thank you.
Salamat.
Khop Khun Ka.**



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