



User – Originated Design

March 5, 2015



Founded by Ralf Hotchkiss in 1980
after his travels in Nicaragua
working with local wheelchair users
to design durable, useable
wheelchairs.







This woman in India can't participate in family activities because her chair is inadequate

- Employment
- Evolving design
- User participation



Double amputee building wheelchairs in Nicaragua – circa 1995



2010 RoughRider®

Design is not abstract. It is both enabled and constricted by the environment in which it operates

- Human anatomy
- Different types of disabilities (even nominally the same can be very different)
- Different types of abilities
- Age (old, young, accommodating growth)
- High intelligence / capacity for assembly / repair
- Multi-lingual
- Literacy
- Culture – floor, religion, attitudes about disability
- Gender



2010 RoughRider®

Design is not abstract. It is both enabled and constricted by the environment in which it operates

- Physical environment – city, countryside, paved, unpaved, curbs, indoor, outdoor, short distance, long distance, cars, physical access or the lack of it
- Climate – dry, rain, snow, heat, cold
- Economy – bottom of the pyramid, who is paying?
- Small scale or large scale manufacture – capital investment
- Shipping and distribution



2010 RoughRider®



Design for Shipping



With media in tow, these riders organized to show city government how to make Cali accessible to everyone.



Testing the accessibility of the new public transit terminals is an eye opening experience for everyone, especially the transit project's lead architect (in the red wheelchair).

Local disability organization in Cali, Colombia organized new wheelchair riders to demand public transit access - 2006



Wheelchair Riders in Novosibirsk, Russia (Siberia) didn't want to demonstrate like Hare Krishnas or hand out leaflets like LDS Missionaries in front of the metro



Wheelchair Riders in Novosibirsk, Russia (Siberia) holding “ride the metro day” demonstration – 1996. They arranged for soldiers to help them up and down steps

- Employment
- Communication
- Cohesive community
- Collective action



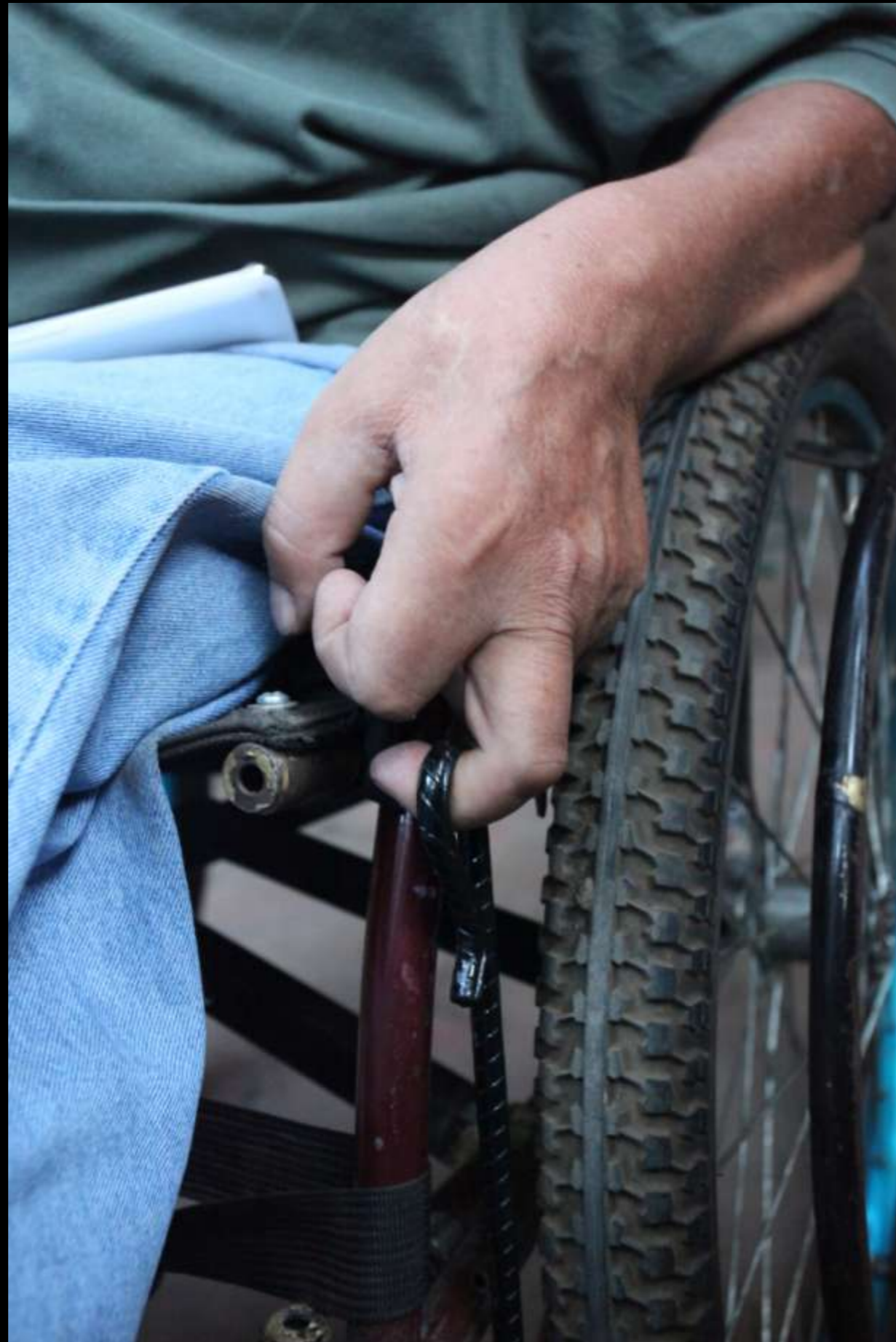
Women wheelchair riders building wheelchairs in Uganda – circa 1998















Design Trade-offs
Who should make them?

St. Boniface Hospital in Fond
des Blancs, Haiti – 2010