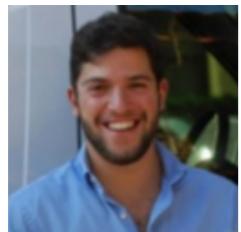


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**Redesigning the
flying experience
for wheelchair
users**

The Team



Clifford Bargar

Mechanical
Engineering



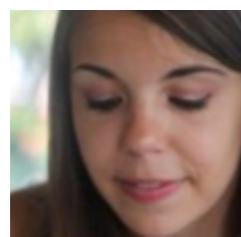
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Rodrigo Aquino

Computer
Engineering

Stanford & USP



Laura Hoinville

Aero/Astro
Engineering



Maria Barrera

Mechanical
Engineering



Guilherme Kok

Industrial
Engineering



Amanda Mota

Product
Design



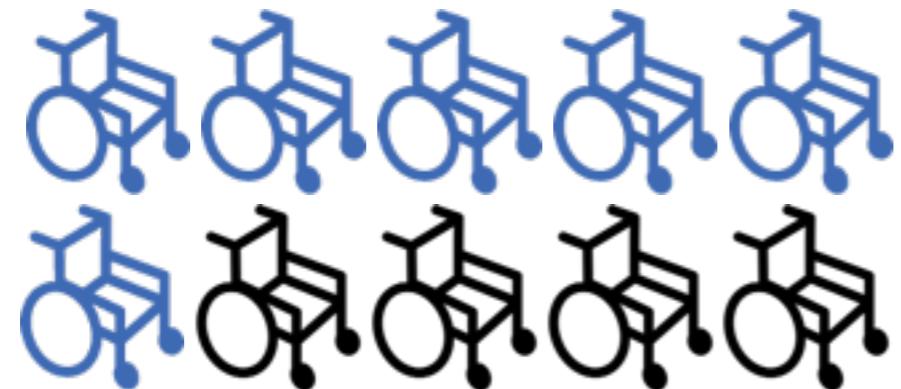
Luiz Durão

Industrial
Engineering

The Problem

wheelchair storage

“The most **emotional** part of my flight is when I have to give up my wheelchair” Aubrie Lee



60% of wheelchair **suffer damage** when flying

(Trailblazers study by David Gillon)



Josie Verghese @josieverg · 23 Oct 2012

Can laugh now but arriving in Sydney to find wheelchair left at H'row was traumatic at time& always fear it could happen again #noflybritain

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The Problem

mobility inside cabin



6 out 10 passengers feel **uncomfortable & unsafe** when being transferred from their wheelchair to the airplane seat.

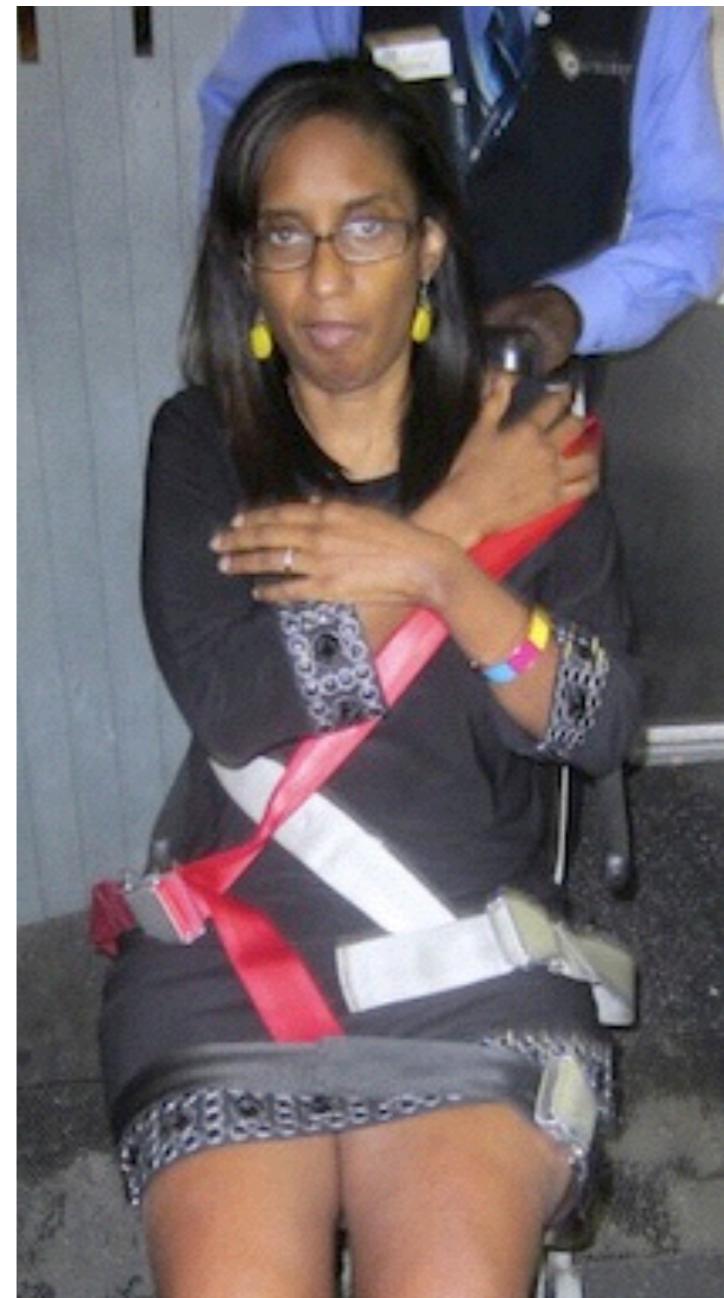


Esther Appleyard-Fox @AppleyardFox · 4 Sep 2012

@jonsnowC4 **#noflybritain** flying: one of the most undignified things:being manhandled over people's heads into a seat & propped up.

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The Problem



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The Challenge

Independence

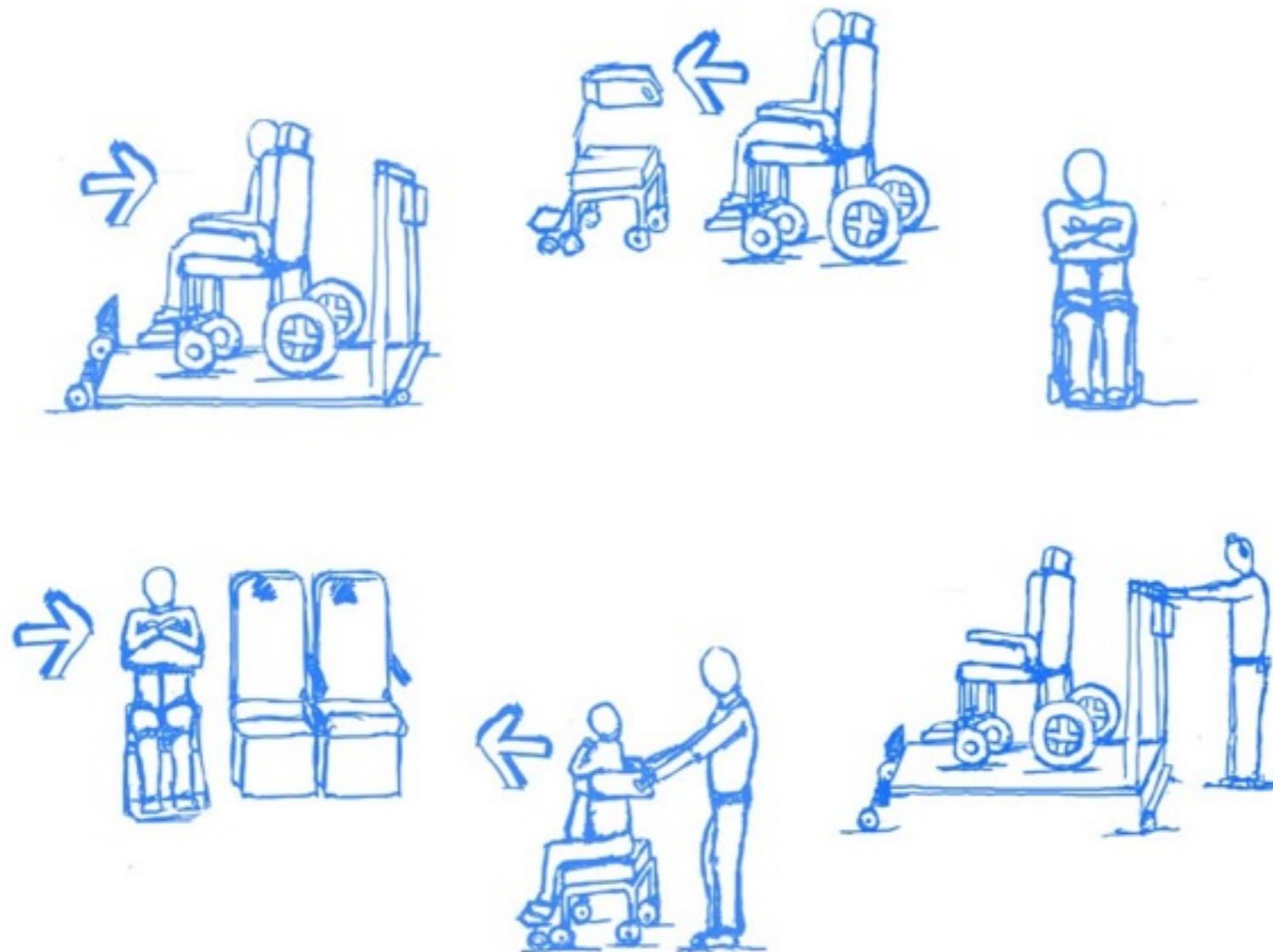
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The Current Process



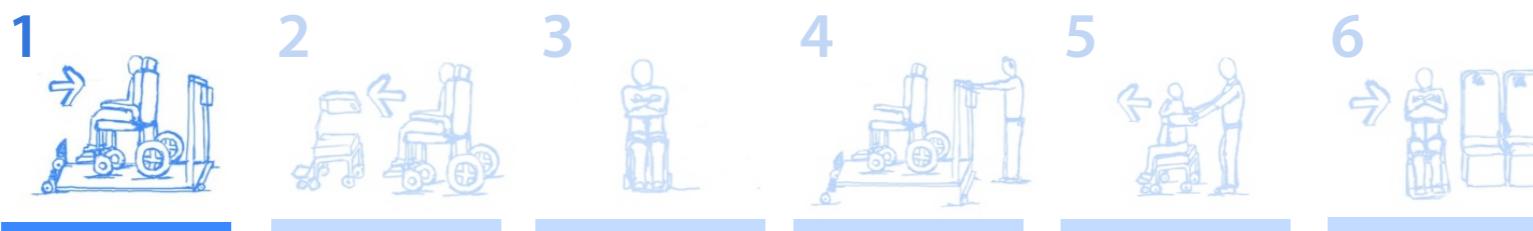
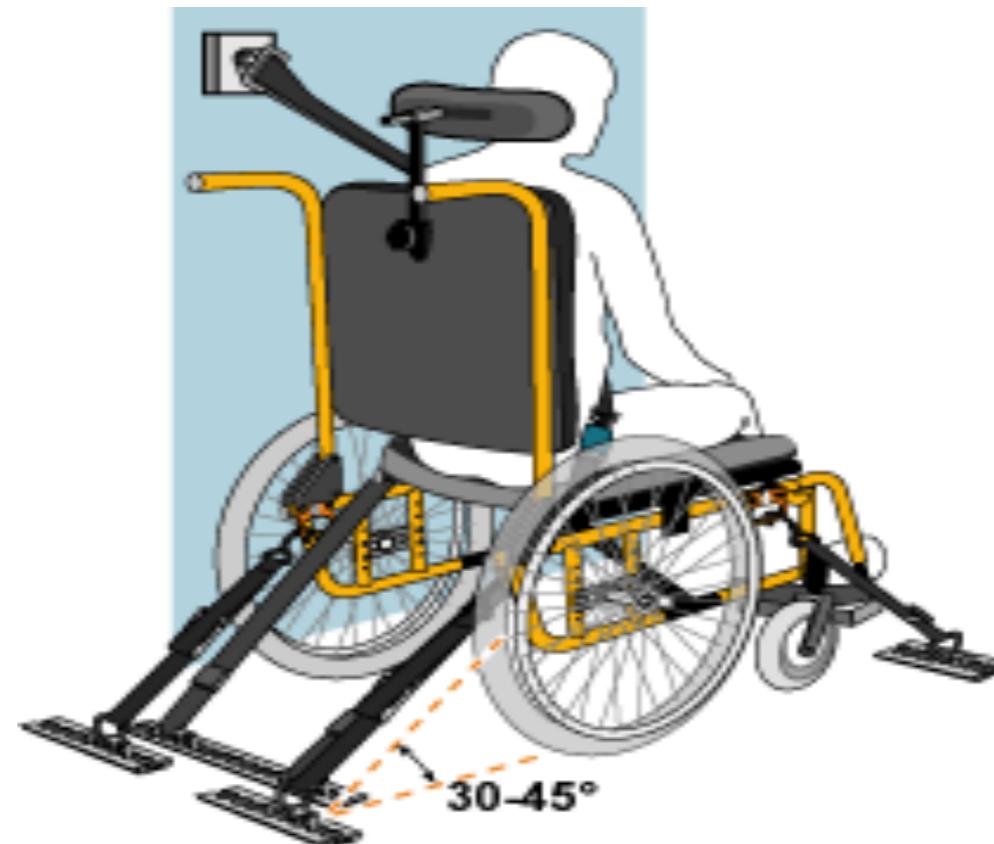
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The New Process



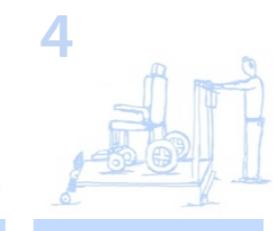
The Platform

familiar experience



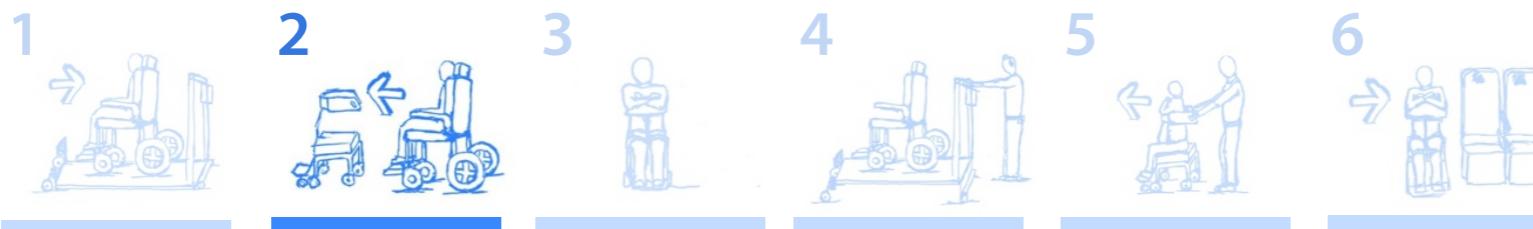
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The Platform secure wheelchair



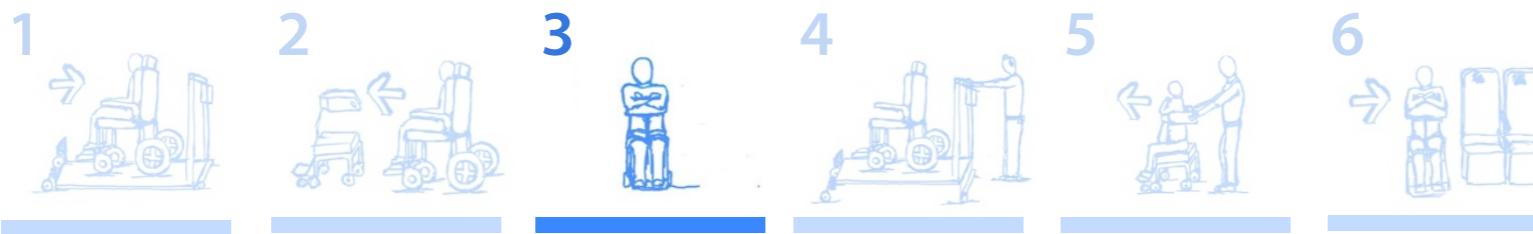
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The Aisle Chair frontal transfer



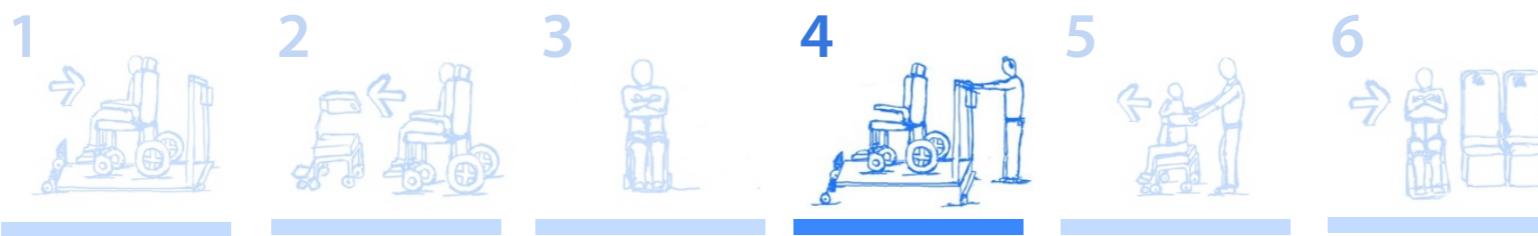
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The Aisle Chair comfort



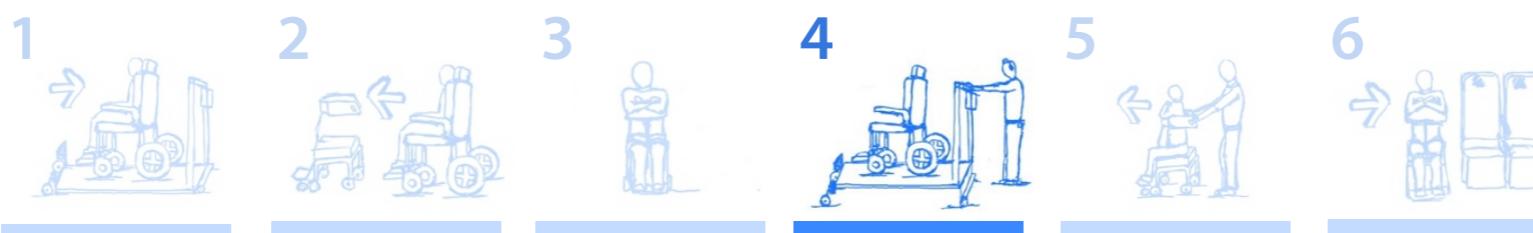
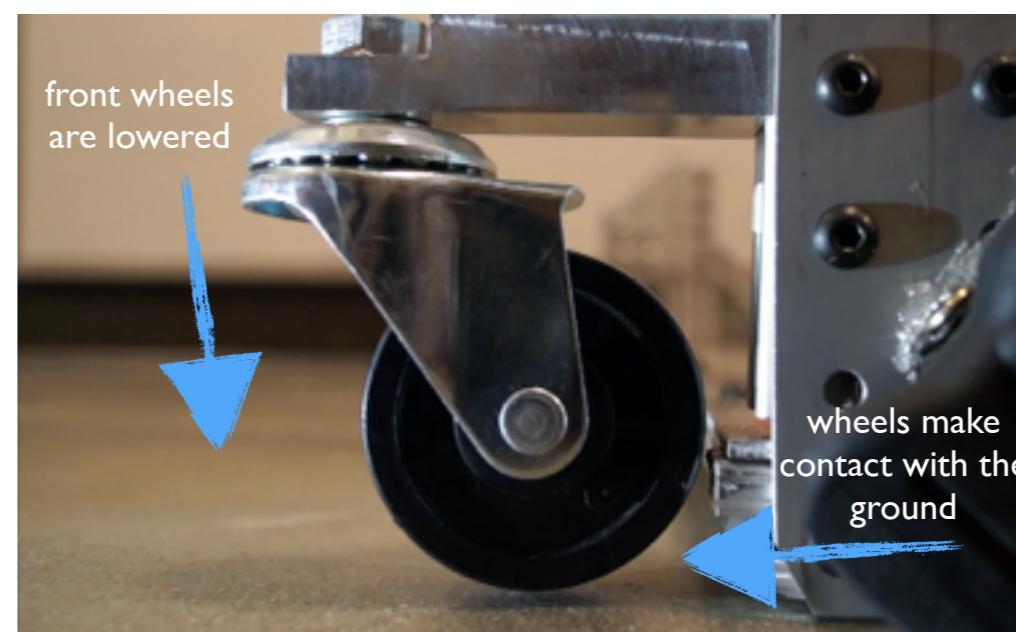
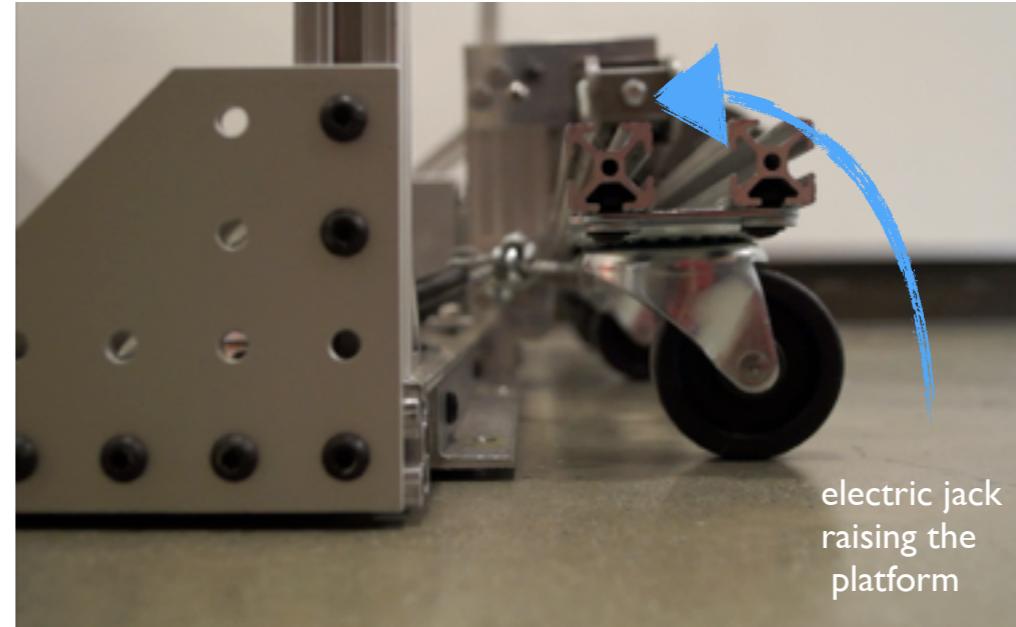
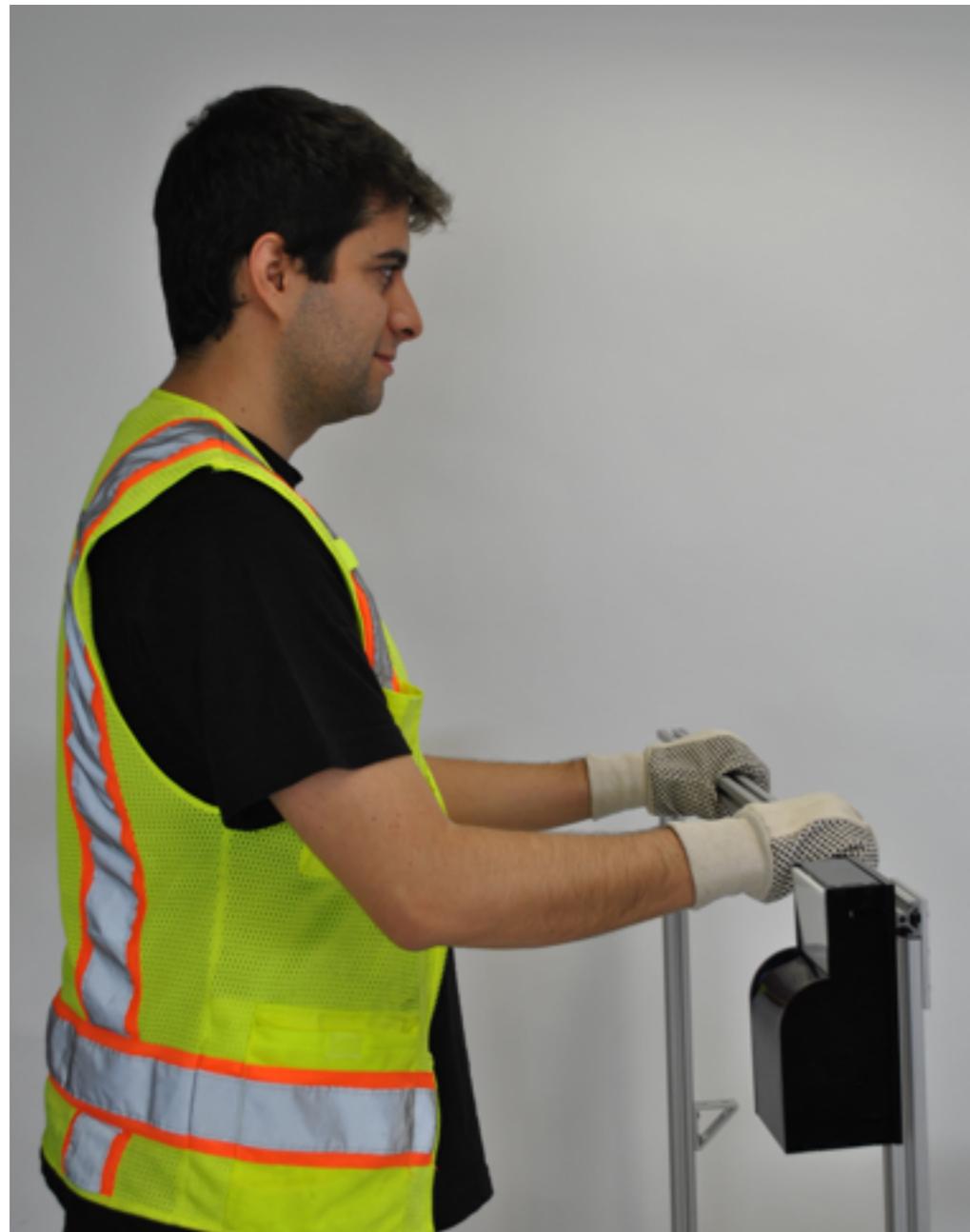
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The Platform smart systems



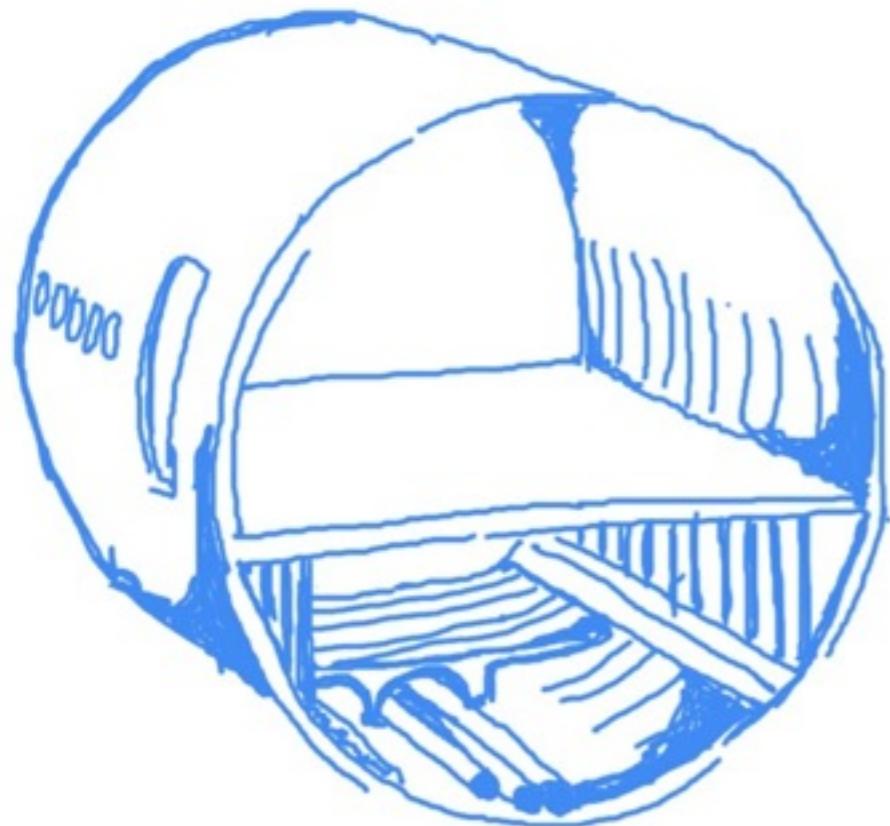
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The Platform movable

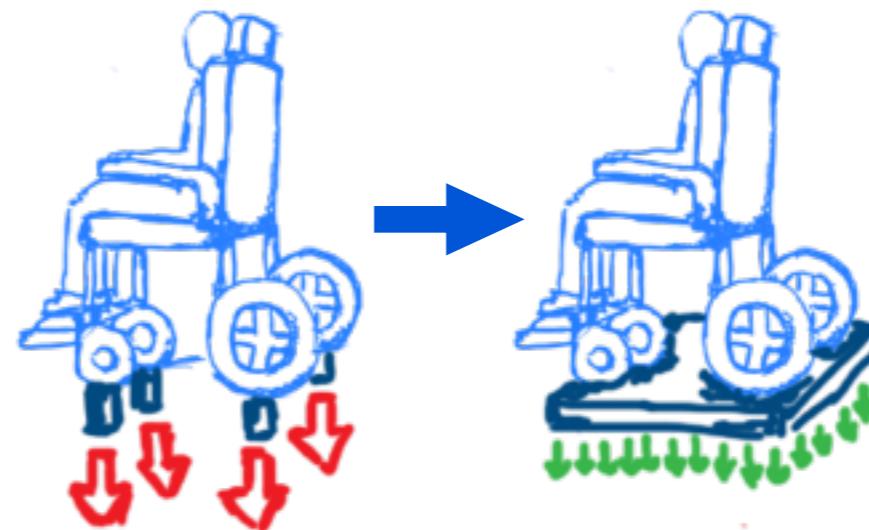


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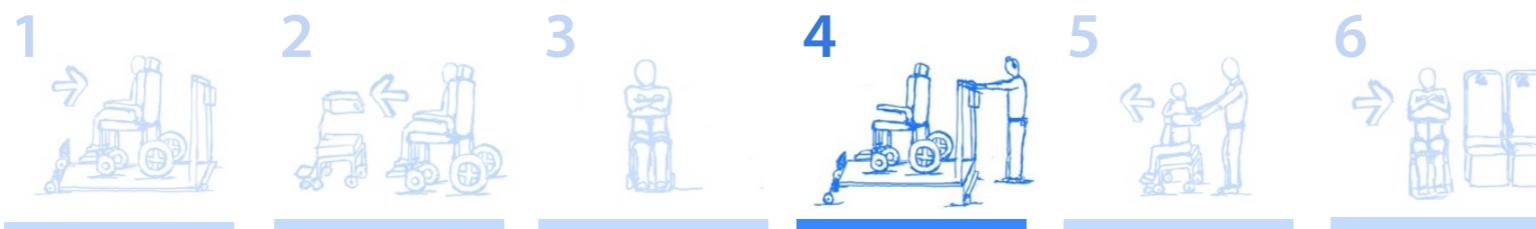
The Platform distribute weight



Wheelchair stress > Maximum allowable stress in cargo hold

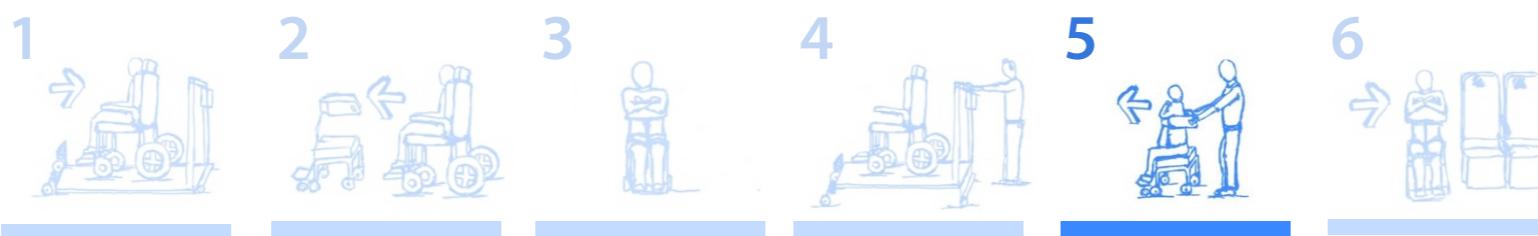


Minimum area in contact with the cargo hold floor: **8 in²**



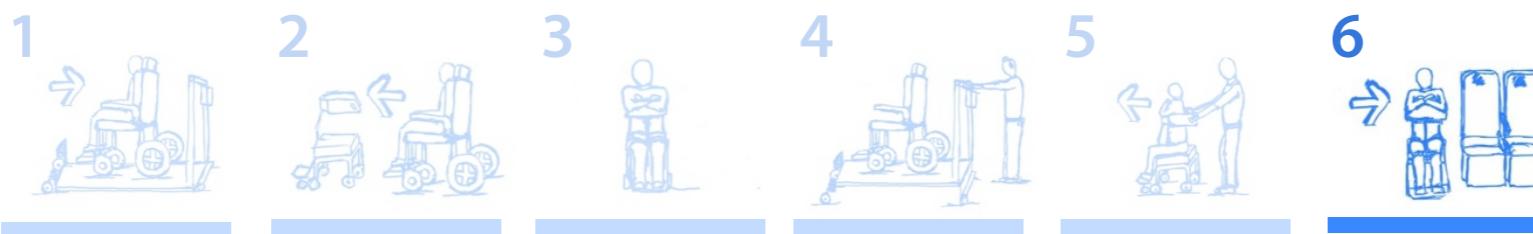
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The Aisle Chair adjustable handles



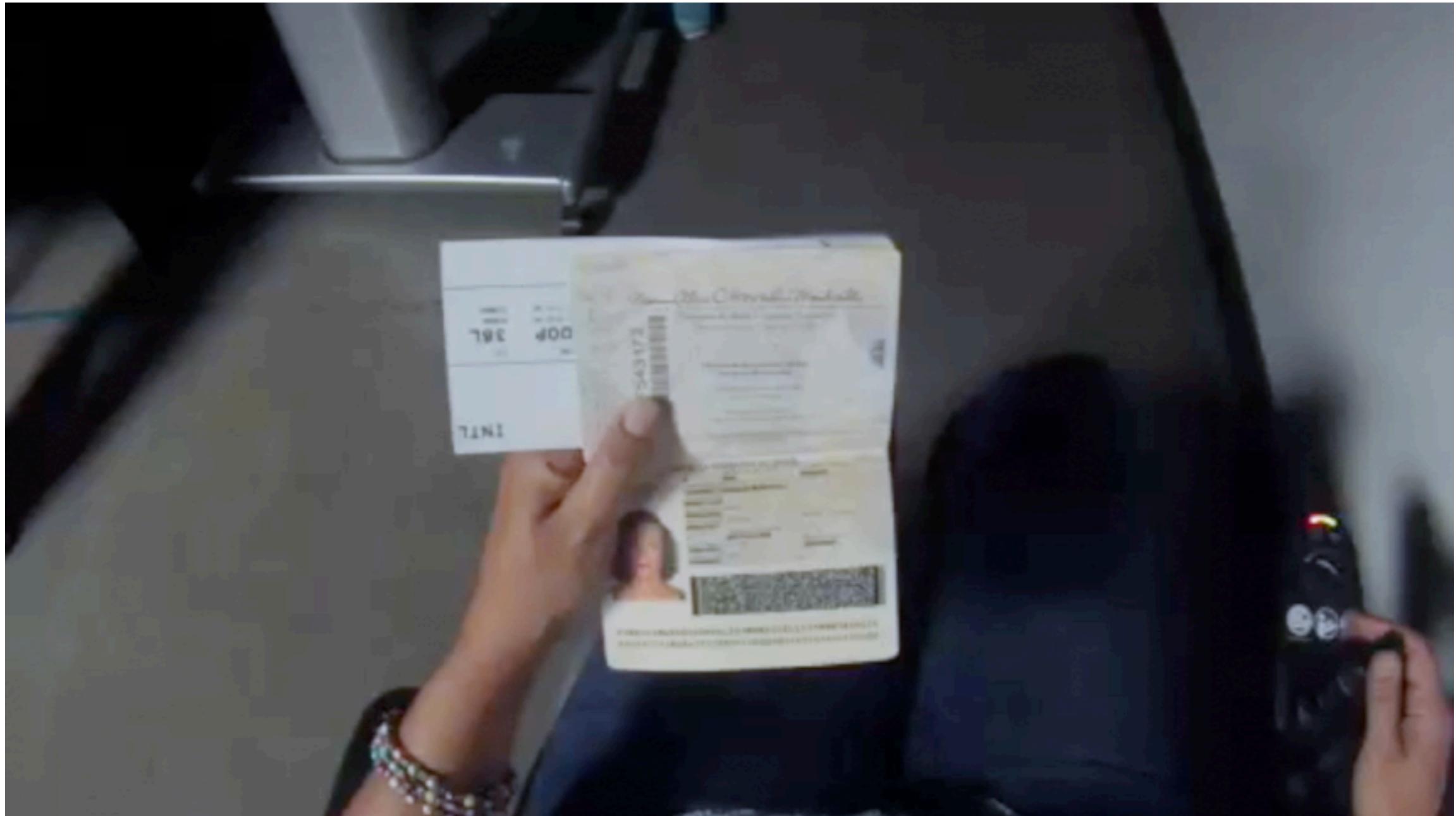
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The Aisle Chair lateral transfer



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Redesigning The Flying Experience



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Thank you



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