Background:
For individuals with limited mobility, independence is restricted because of the need to negotiate stairs. There are limited options available to consumers to provide adaptable support for a variety of terrain challenges.

Solution:
Improve user’s mobility and independence by:
• Fulfiling function of standard walkers
• Adjust to ascend and descend stairs and slopes
• Light enough to use regularly
• Be competitively priced vs. standard walkers

Features:
• +/- 7 inches vertical change (ADA code)
• Quick actuation time (< 5 sec)
• Low actuation force (4.5 lbf)
• 54° handle angle, mimic handrail

User Testing:
Physical Therapy study participants
• Use prototype on stairs
• Provide feedback on improvements and best characteristics
• All participants approved of design

Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Target</th>
<th>Actual</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>7.8</td>
<td>8.6</td>
<td>lbf</td>
</tr>
<tr>
<td>Deflection</td>
<td>0.25</td>
<td>0.25</td>
<td>lbf</td>
</tr>
<tr>
<td>Weight Capacity</td>
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<tr>
<td>Tipping Force</td>
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<tr>
<td>Cost</td>
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<tr>
<td>Factor of Safety</td>
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<td>7</td>
<td>-</td>
</tr>
</tbody>
</table>

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