

## EasyUp Walker Product Contract

**Target user:** over 65, desires independence, wants to be able to sit in any chair, experiences mobility problems due to muscle weakness and balance issues, has high cognitive function

**Sources:** benchmarking<sup>1</sup>, census data<sup>2</sup>, survey<sup>3</sup>, Vivian<sup>4</sup>, Dr. Lu<sup>5</sup>, Dr. Fabrizi<sup>6</sup>, Perez-Alers<sup>7</sup>, International Encyclopedia of Human Factors<sup>8</sup>, Aging and the Product Environment<sup>9</sup>

User Need	Attribute	Engineering Specification	Owner
Easy to Use	Number of operations to deploy arms	Less than 2 actions	Geng
	Force necessary to deploy or retract	Less than 35 N	Julia
	Force necessary to push walker	Less than 35 N	Julia
	Force necessary to pull walker	Less than 50 N	Julia
	Turn radius	Less than 1 ft	Julia
	Easy to see instructions on walker	At least 1 inch tall, no text	Julia
	Easily customizable	Affords the addition of accessories in no more than 1 action per point of attachment	Julia
	Motor skills required for use	No fine motor skills required (wrist twisting, etc.)	Mindy
	Smooth surface materials	Roughness ~ 0 mm	Mindy
Comfortable	Tipping angle	Less than 3° with 300 lb load	Adam
	Center of gravity of user	Within 5 inches of walker's center of gravity	Adam
Compact Size	Outer walker width	Less than 26"	Luke
	Height of backside feet	Less than 1.5"	Luke
	Easily collapses for storage	No more than 3 actions to collapse	Mindy
Safe	Product life	At least 5 years	Mindy
	Number of exposed pinch points (gap width < 1")	~ 0	Lisa
	Load capacity	At least 500 lbs	Lisa
	Number of sharp edges	None	Julia
	Audial or visual signalling	Either visual or audial signals present to communicate state of device to user	Julia

Adjustability	Walking handles height	27" to 34" range from ground	Tim
	Lift Handles Height	16" to 20" range from ground	Tim
Promotes Correct Use	Overhang of lift handle	Between 8" and 12" over seat	Tim
	Length of hand grip	Between 6" and 8"	Mindy
Afforability	Mass Manufacturing cost in quantity	< \$100 per walker	Adam
Visual Appeal	Mechanisms visibility to user	Not visible	Julia
	Color	Color saturation < 75%	Mindy