

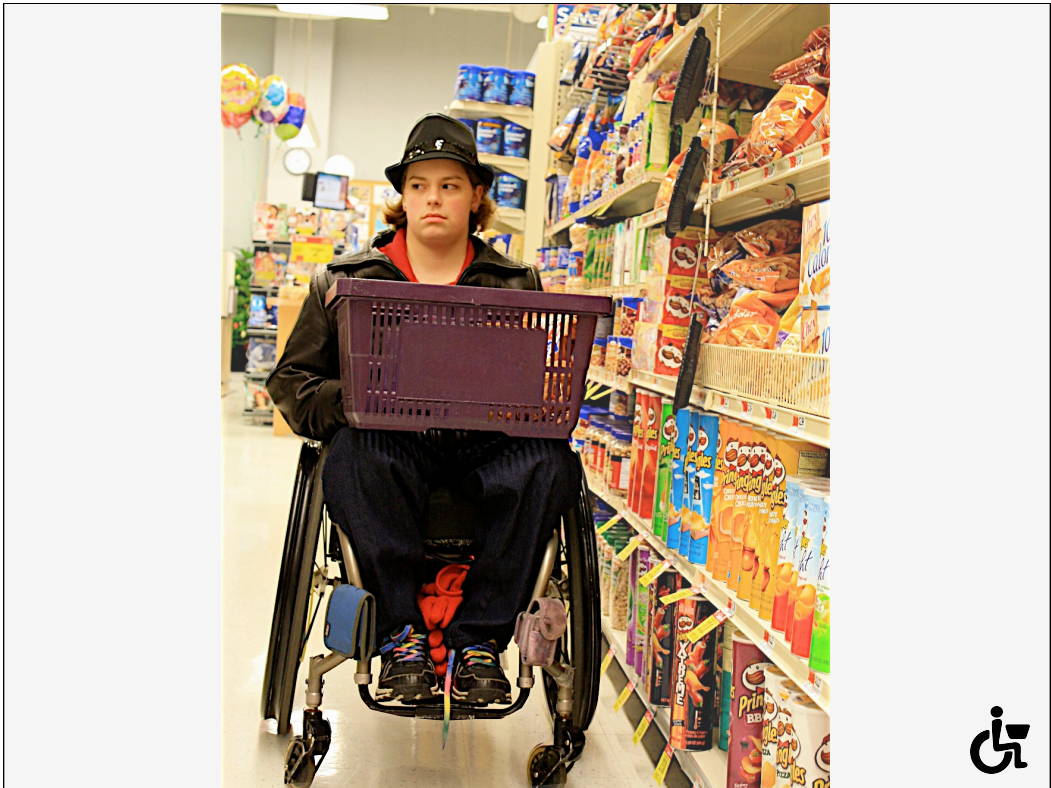


2.009 team purple
december 6th, 2010

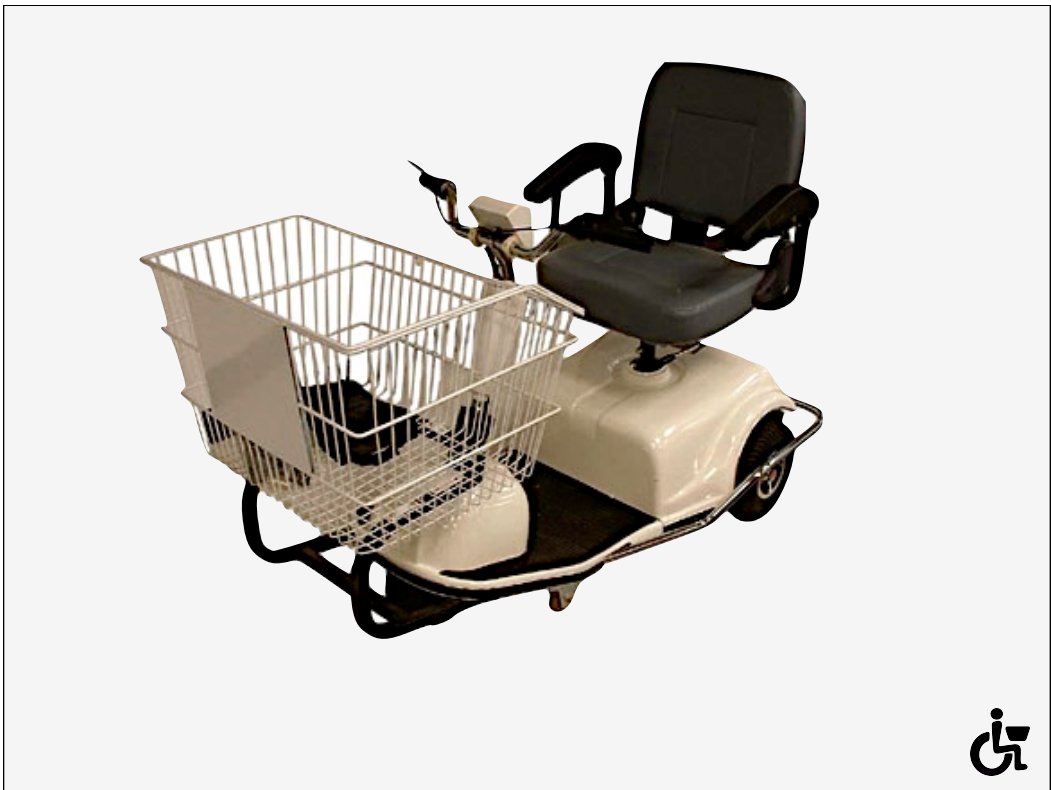


our solution











store to home

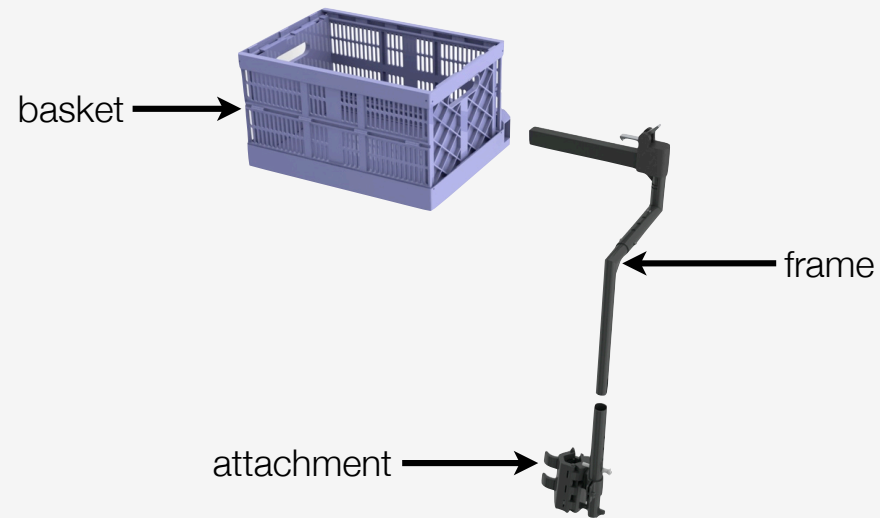


convenience for users

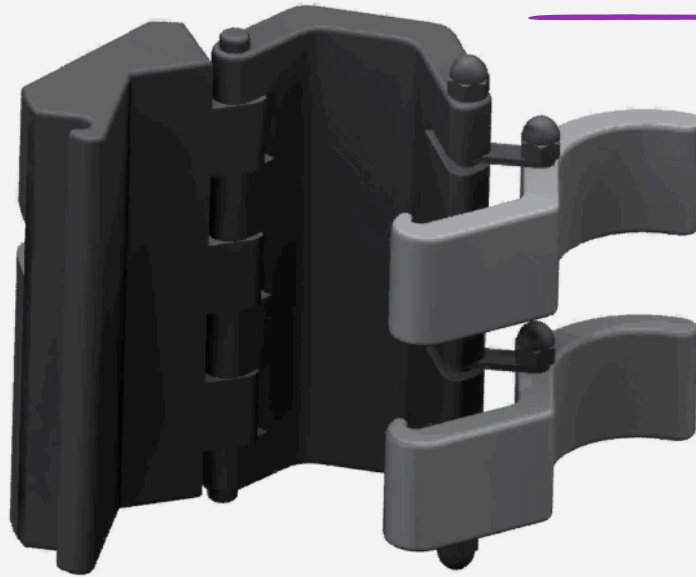
- ▶ lightweight
- ▶ adjustable
- ▶ adaptable
- ▶ easily maneuverable
- ▶ collapsible



components



attachment



attachment





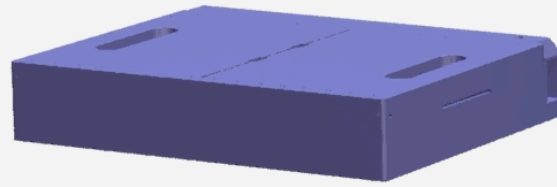
attachment



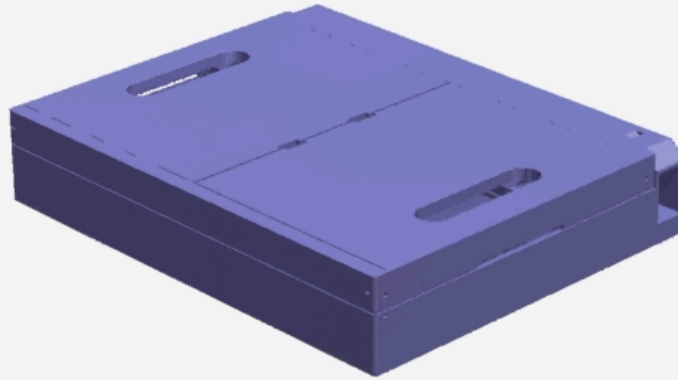
frame



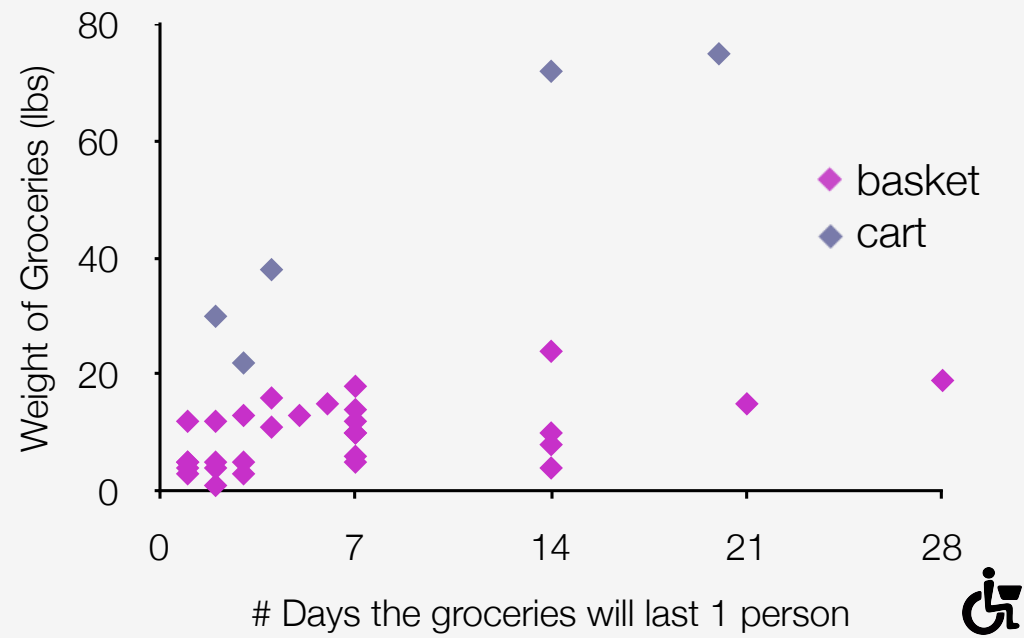
basket



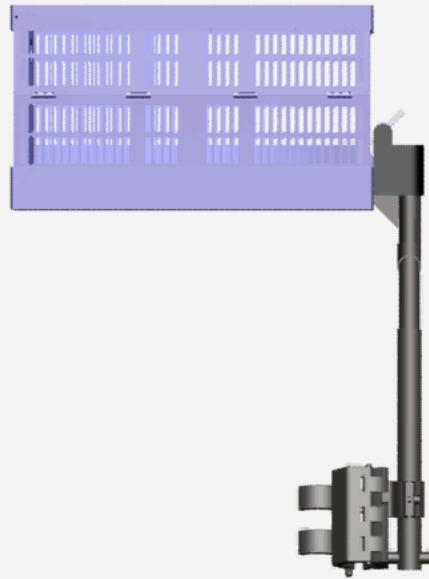
basket



grocery store statistics



product



sustainable market

3.3 million wheelchair users in the US

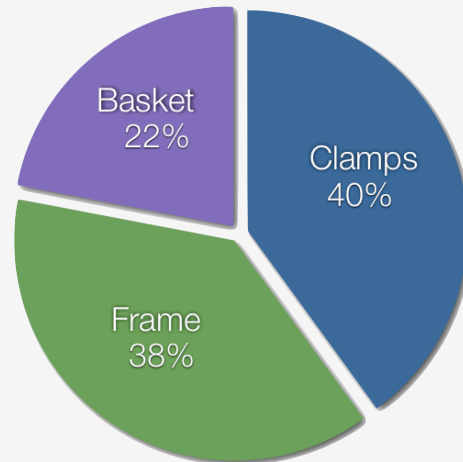
- ▶ 400 thousand are independent, in manual rigid chairs
- ▶ manual rigid chair sales growing at 12-15% annually



cost and pricing

Marginal Cost: \$80

Market Price: \$200



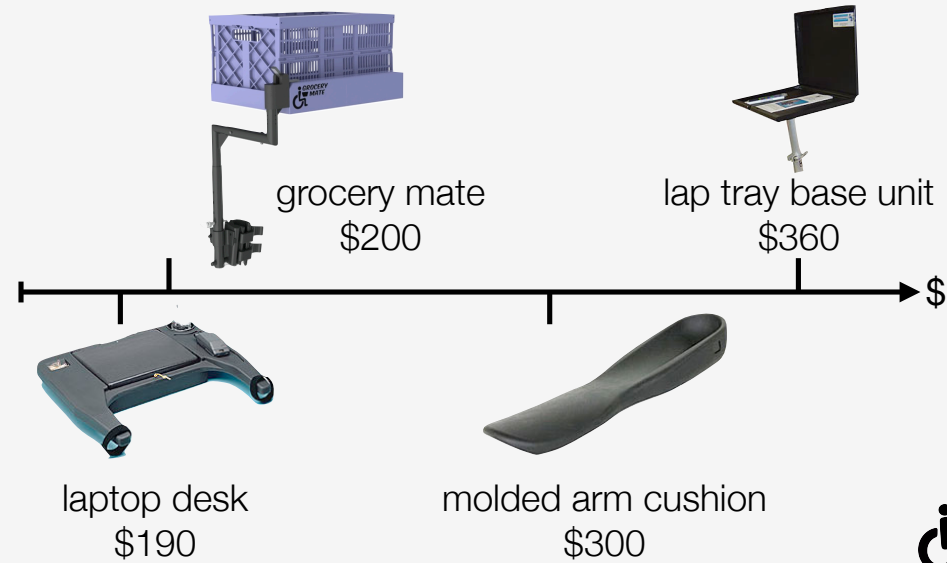
Demand: 15,000/year

Investment: \$150,000

IRR: 55%



wheelchair accessories



grocery mate



acknowledgments

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2.009 instructors, mentors, TAs

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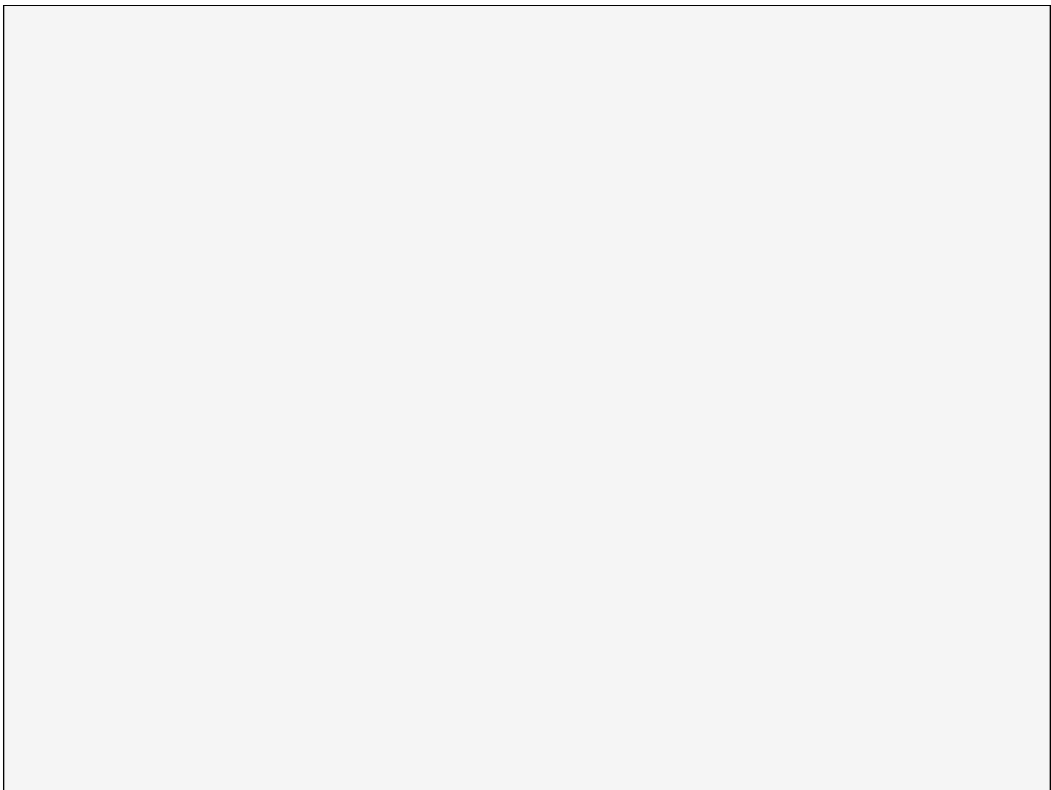
Nancy Belham, Bell’s Powder Coating

Patrick McAtamney & David Dow, MIT LMP

Ilan Moyer & Mark Bellanger, Edgerton Center

Tammy Sammon, Sunrise Medical





the juice challenge

- ▶ how much can the grocery mate handle?

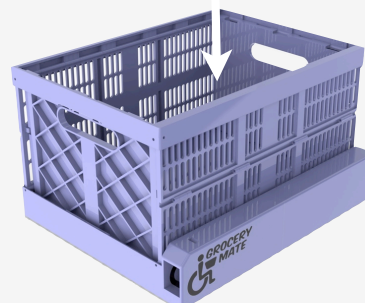


3 gallons
24 lbs, 1.5 cubic ft



load analysis

- ▶ how much weight will break the grocery mate?



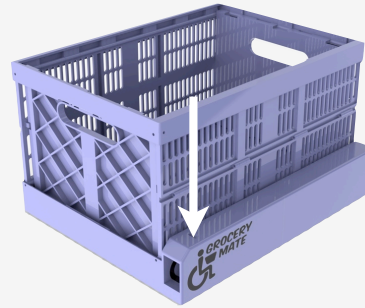
68 pounds

when loading at the very edge of the basket
*it will deflect about 0.3 inches before failing



load analysis

- ▶ where will it break first?

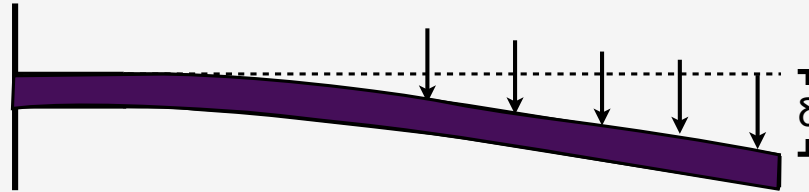


breaks first along the support attachment



load analysis

- ▶ how much will the grocery mate deflect?



it depends on the weight
with 40 lbs, deflection is ~0.1 in



detailed financials

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales Revenue	\$562,500	\$1,800,000	\$2,805,000	\$3,000,000	\$3,390,000
Material and Labor Cost	-\$180,000	-\$600,000	-\$1,020,000	-\$1,200,000	-\$1,356,000
Depreciation, Returns	-\$39,375	-\$126,000	-\$196,350	-\$210,000	-\$237,300
Gross Profit	\$343,125	\$1,074,000	\$1,588,650	\$1,590,000	\$1,796,700
R&D Expense	-\$56,250	-\$180,000	-\$280,500	-\$300,000	-\$339,000
Sales, Marketing, Admin. Expense	-\$140,625	-\$450,000	-\$701,250	-\$750,000	-\$847,500
Net Earnings Before Tax	\$146,250	\$444,000	\$606,900	\$540,000	\$610,200
Interest	-\$73,125	-\$222,000	-\$303,450	-\$270,000	-\$305,100
Taxes	-\$36,563	-\$111,000	-\$151,725	-\$135,000	-\$152,550
Net Earnings After Tax, Discounted	\$35,156	\$102,626	\$134,883	\$115,399	\$125,385
Initial Investment	-\$150,000	Total PDV		\$363,449	

benchmarking

Features			
Cost	\$15	\$1,500	\$200
Ownership	grocery stores	grocery stores	wheelchair users
Load Capability	55 lbs	300 lbs*	40 lbs

*includes weight of passenger